

2020 Census Program Management Review

Decennial Census Programs

U.S. Census Bureau

April 21, 2017

Welcome

Lisa Blumerman

Associate Director, Decennial Census Programs

Deborah Stempowski

Chief, Decennial Census Management Division

Welcome

Housekeeping Items

- Meeting is being broadcast via a publicly available web broadcast
 - Consider all microphones live at all times when having sidebar conversations
- For questions, please remember to speak directly into the microphones for the benefit of other participants, including those watching via any external broadcast
- There are legal requirements we must follow when talking with contractors or potential contractors
 - Information from Michael Palensky, Chief, Acquisition Division
- Location of restrooms – next to elevators in green (just outside the auditorium)
- Emergency exits

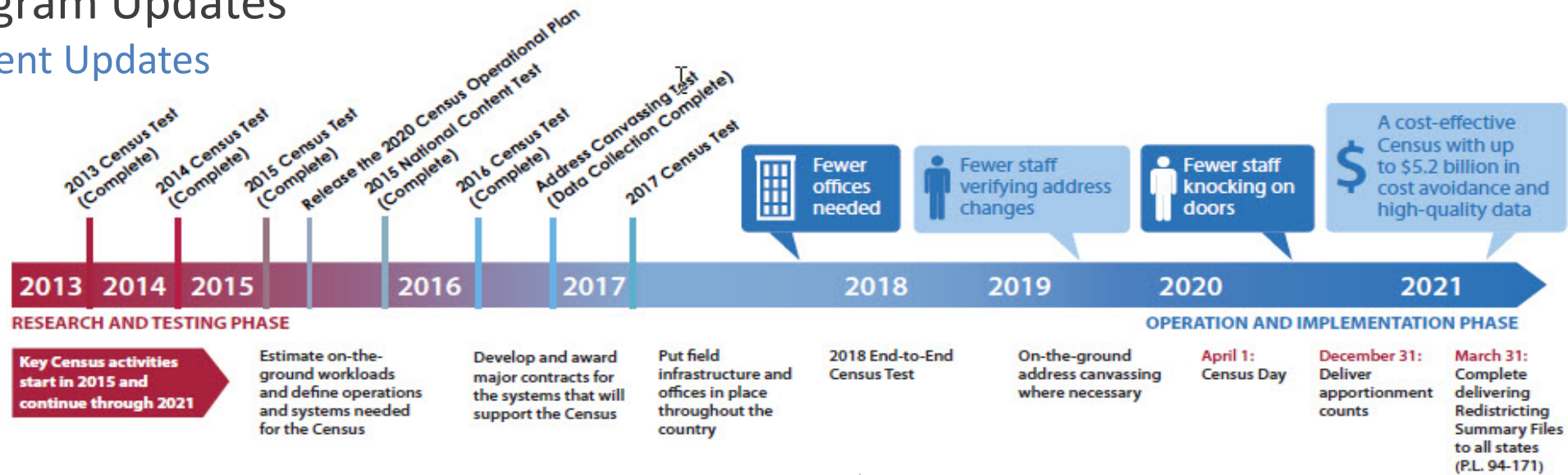
Welcome

Today's Agenda

- Welcome and High-Level Program Updates
- Update on Testing
 - 2017 Census Test
 - Administrative Records Research and Planning
 - 2018 End-to-End Census Test: Focus on Nonresponse Followup
- 2020 Census Operations
 - Local Update of Census Addresses
 - 2020 Census Language Program
 - Partnership with United States Postal Service
- 2020 Census Systems Readiness
 - Update on Systems Readiness
- Wrap-up

Program Updates

Current Updates



Key Activities:

- **Making Key Decisions:** Continuously make timely decisions based on research and evidence
- **Award Key Contracts:** Continue to award key contracts for the 2020 Census
- **2017 Census Test:** Nationwide self-response test that includes Internet self-response, Real-Time Non-ID response and processing, and the deploying of applications in the Cloud
- **Residence Criteria:** Proposed criteria in June 2016 and final criteria in 2017
- **Topics to Congress:** Title 13 requires the Census Bureau deliver to Congress subjects for the decennial census program by March 31, 2017, and questions by March 31, 2018
- **Operational Readiness**
 - 2020 Census Operational Plan 2.0
 - Local Update of Census Addresses (LUCA)
 - Field Infrastructure: Space, Decennial Logistics Management, Training, Recruiting, and Onboarding
 - 2018 End-to-End Census Test

Program Updates

FY 2017 Budget: Current Status

- The Census Bureau is under a Continuing Resolution through April 28 (*P.L. 114-254*)
- This included a legislative anomaly for the 2020 Census program to spend at the rate *“necessary to maintain the schedule and deliver the required data according to statutory deadlines...”*
- Focus of spending during CR will be on ensuring systems readiness ahead of 2018 End-to-End Census Test
- Certain key activities must be paused until we know final funding levels

Program Updates

Key Contract Updates

2016

Census Questionnaire Assistance – Awarded: July 11, 2016, Awardee: General Dynamics Information Technology (about \$430 million)

Integrated Communications Contract – Awarded: August 24, 2016, Awardee: Young & Rubicam (about \$415 million)

Technical Integration – Awarded: August 26, 2016, Awardee: T-Rex Corporation, Inc. (about \$890 million)

Schedule A Human Resources Payroll System – Awarded: November 10, 2016, Awardee: CSRA (C-SHaRPS about \$125 million, LMS about \$5 million)

2017

Decennial Device as a Service

- Will be a single contract for all mobile devices and services for the 2018 End-to-End Census Test through the completion of 2020 Census field operations
- **Award: Early Spring 2017**

Fingerprinting/Badging

- Will be a single contract for the 2018 End-to-End Census Test peak operations through the completion of the 2020 Census field operations
- **Award: July 2017 – September 2017**

Field IT Deployment

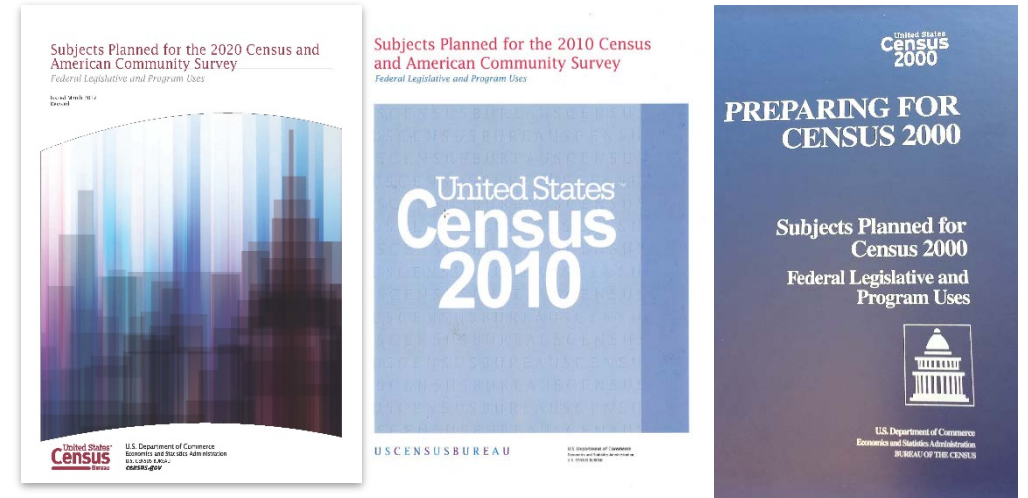
- Will be a single contract for providing IT equipment, logistics services, maintenance, and support for the Regional Census Centers, Area Census Offices, Remote Workers, Island Area Offices and Paper Data Capture Centers
- **Award: September 2017**

Program Updates

2020 Census Subjects

Title 13 requires that the U.S. Census Bureau deliver to Congress:

- Subjects proposed for the decennial census program by **March 31, 2017, delivered March 28, 2017**
- Questions proposed for the decennial census program by March 31, 2018



The Census Bureau submitted subjects planned for the Decennial Census Program, *including*:

- 2020 Census Subjects
 - No new subjects (same set proposed for 2010 Census)
- American Community Survey (ACS) Subjects
 - No new subjects (same set asked on current survey)
- 2020 Island Area Censuses Subjects
 - No new subjects
 - Four subjects not on the ACS, but included on 2010 Island Areas Census

Program Updates

Schedule

Milestone	Date	
Begin 2020 Census Program	November 18, 2011	✓
Deliver 2020 Census Operational Plan	September 30, 2015	✓
Federal Register Notice of Proposed Residence Criteria and Residence Situations for the 2020 Census	June 30, 2016	✓
Conduct the Second Round of Tribal Consultations	September – November 2016	✓
Begin Local Update of Census Addresses (LUCA) Program (including Appeals Process)	January 2017	✓
Deliver 2020 Census Topics to Congress	March 28, 2017	✓
Conduct the Block Boundary Suggestion Program	December 2015 – May 2017	
Deliver 2020 Census Questions to Congress	By March 31, 2018	
2020 Census Day	April 1, 2020	
Deliver Apportionment Counts to the President	By December 31, 2020	
Complete Delivery of Redistricting Counts to the States	By March 31, 2021	
Complete 2020 Census Program	September 29, 2023	

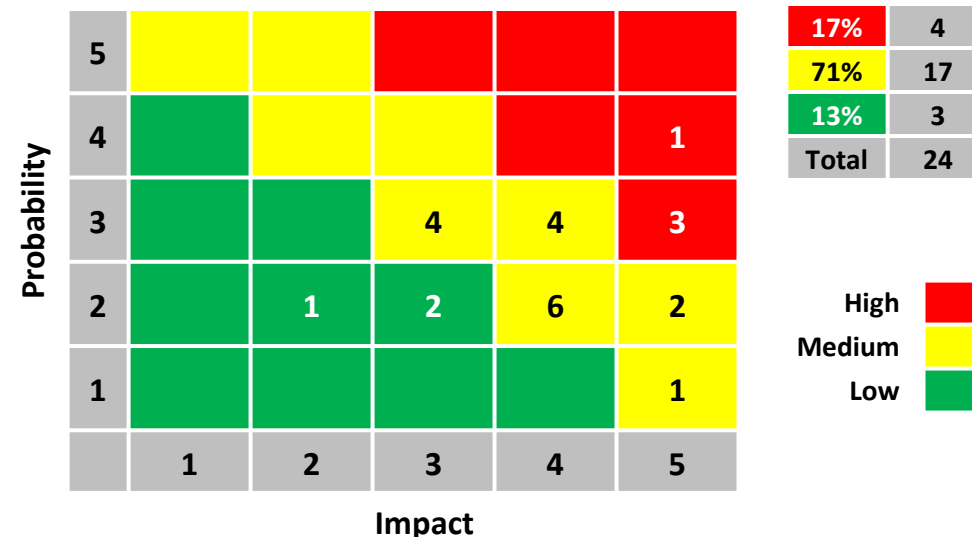
Program Updates

Risks

The selected risks that follow represent the major concerns that could affect the design or the successful implementation of the 2020 Census.

- Funding Requests Not Realized ■ (Probability 4, Impact 5)
- Administrative Records and Third-Party Data - External Factors ■ (Probability 3, Impact 5)
- Public Perception of Ability to Safeguard Response Data ■ (Probability 3, Impact 5)
- Cybersecurity Incidents ■ (Probability 3, Impact 5)
- Enterprise IT Solutions ■ (Probability 3, Impact 4)
- Late Operational Design Changes ■ (Probability 3, Impact 4)
- Technological Innovations Surfacing After Design is Finalized ■ (Probability 2, Impact 4)
- Cloud Implementation ■ (Probability 3, Impact 3)
- Systems Scalability ■ (Probability 3, Impact 3)

New Program Issues: 1. Increased Workload For The Address Canvassing Operation
2. Fully Implementing Innovative Design for 2020 Census



2017 Census Test

Alexa Jones-Puthoff

Decennial Census Management Division

2017 Census Test

Overview

- April 1, 2017 Census Day
- A nationwide self-response test of 80,000 housing units

Purpose

- Test the integration of operations and systems for Self-Response
- Test the feasibility of collecting tribal enrollment information

National Sample: 80,000 housing units

- Housing units in mailable areas
- Remove housing units from recent decennial tests and the American Community Survey
- Stratified to oversample housing units in:
 - Alaska
 - Areas with relatively higher populations of American Indian and Alaska Natives
 - Areas with lower propensity to respond online

Reinterview: 15,000 housing units

- Conducted by phone
- Heavy oversample:
 - Alaska
 - People who identify as American Indian and Alaska Native
 - People who indicate they are enrolled in a tribe
 - People responding initially without a Census ID

2017 Census Test

Mail Strategy

Self-Response

- Self-response contact strategy: two-panel design, Internet First (invitation letter on first contact) and Internet Choice (questionnaire on first contact)
- Languages: English and bilingual (English/Spanish)
- 80,000 housing units in sample

Panel	Number	Percent
Internet First	48,900	61.1
Internet Choice	31,100	38.9

Language	Number	Percent
English	69,824	87.3
Bilingual (English/Spanish)	10,176	12.7

2017 Census Test

Mail Strategy (continued)

- First mailing on March 20, 2017
- All households mailed materials first and second mailing
- Mailing #3, #4, #5 sent to nonresponding households
- Mailing #4 included a questionnaire for households in both panels

Panel	Mailing 1 Letter or Letter + Questionnaire	Mailing 2 Letter	Mailing 3* Postcard	Mailing 4* Letter + Questionnaire	Mailing 5* “It’s not too late” Postcard
Internet First	March 20, 2017 Letter	March 23, 2017	April 3, 2017	April 10, 2017	April 20, 2017
Internet Choice	March 20, 2017 Letter + Questionnaire	March 23, 2017	April 3, 2017	April 10, 2017	April 20, 2017

(*) Targeted only to nonrespondents

2017 Census Test

Operational Testing in 2017

Internet Self-Response

- First test using ECaSE platform
- Languages available: English and Spanish

Census Questionnaire Assistance

- First test to utilize Census Questionnaire Assistance contracted solution
- Interactive Voice Response system active
- Live agents taking responses by phone
- Languages supported: English, Spanish, Chinese (Mandarin, Cantonese), Vietnamese, Korean, Russian, and Arabic

Paper Data Capture

- Testing new paper control processes
- Testing new check-out procedure

2017 Census Test

Preliminary Self-Response as of April 19, 2017

Overall Self-Response

- 29.5 percent of the 80,000 households in sample have responded as of April 19, 2017

	Initial Panel	Final Panel	Internet	Internet Participation %	Telephone	Telephone Participation %	Mail	Mail Participation %
Internet First	48,900	41,699	14,817	35.5	1,192	2.9	0	0.0
Internet Choice	31,100	24,062	2,164	9.0	144	0.6	5,614	23.3
Total	80,000	65,761	16,981	25.8	1,336	2.0	5,614	8.5

*Individual components may not add to total due to rounding.

Telephone calls

- Total calls = 4,976
 - Calls referred to agents = 2,882 (57.9 percent)

2017 Census Test

Key Activities

Activity	Date
First Mailing	March 20, 2017
Conduct Internet Self-Response, Including Non-ID Processing	March 20 – May 12, 2017
Conduct Census Questionnaire Assistance (CQA)	March 20 – May 12, 2017
Conduct Paper Data Capture	March 20 – June 2, 2017
Census Day	April 1, 2017
Conduct Reinterview	April 10, 2017 – July 10, 2017
Last Mailing	April 20, 2017

Questions?

Administrative Records Research and Planning

2018 End-to-End Census Test: Nonresponse Followup

Maryann Chapin

Decennial Census Management Division

Andrew Keller

Decennial Statistical Studies Division

Nonresponse Followup

- Administrative Records Usage
- 2018 End-to-End Census Test – Overview
 - Goals
 - Operational Scope
 - Key Activities
 - Test Sites
- Nonresponse Followup Universe Creation
- Early Nonresponse Followup
- Enumerator Training
- Nonresponse Followup Field Data Collection Contact Strategy
- Multiunit Manager Visits
- Field Verification
- Proxy Enumeration
- Quality Control
- Operational Control System Enhancements
- Operational Closeout

Administrative Records Research and Planning

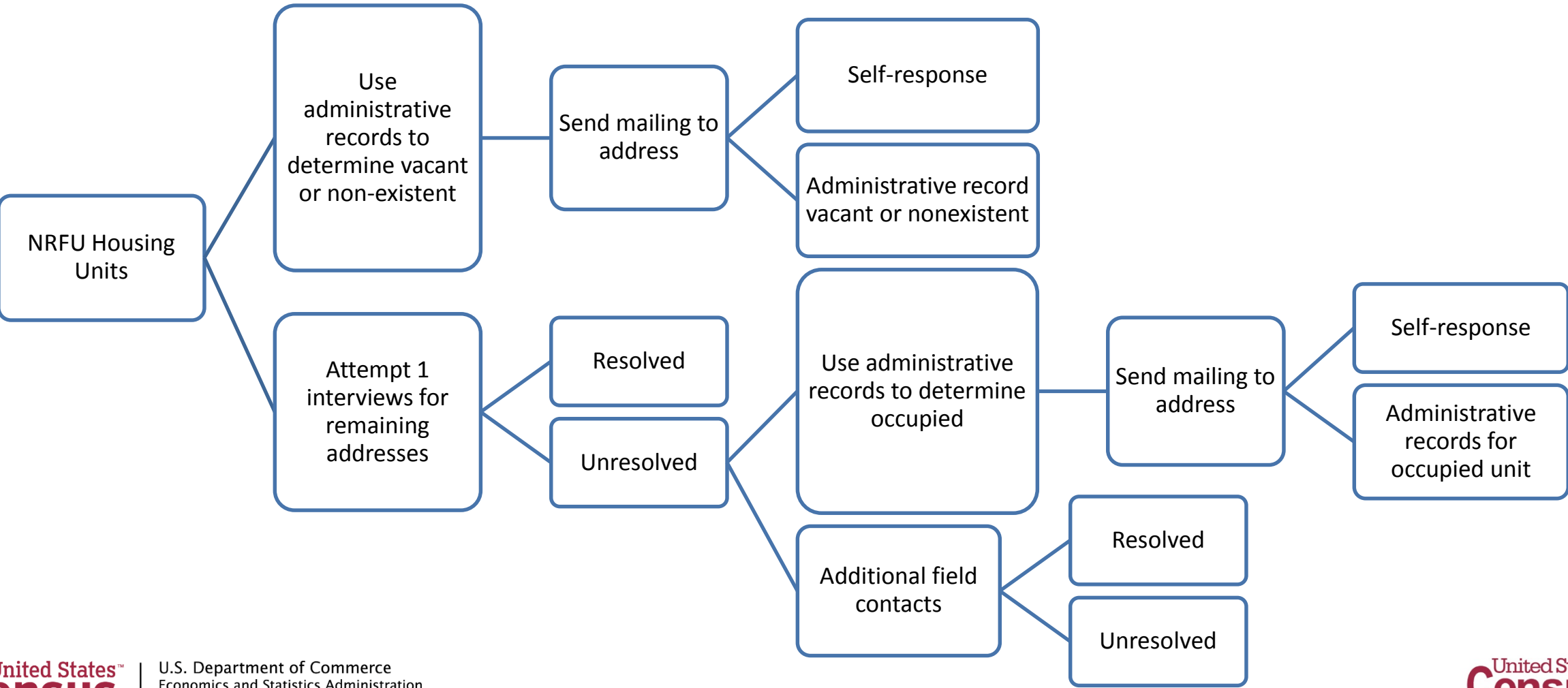
Administrative Record Usage

Outline

- 2016 Nonresponse Followup (NRFU) contact strategy with administrative records (AR) determination
- Administrative Record Methodology for Occupied, Vacant and Nonexistent/Delete addresses
- Characteristics for administrative record enumeration
- Research findings
- Proposed 2018 End-to-End Census Test NRFU Contact Strategy

Administrative Records Research and Planning

2016 Contact Strategy



Administrative Records Research and Planning

Administrative Records Data Sources

Vacancy Determination

- United States Postal Service Information
 - USPS Undeliverable-as-Addressed (UAA) reasons for census mailings made around April 1
 - Vacant
 - No Such Number, No Such Street
 - Others
 - Delivery Sequence File
- Other Sources
 - Internal Revenue Service (IRS) 1040 filings
 - IRS 1099 information returns
 - Centers for Medicare and Medicaid Services Medicare Enrollment database
 - Indian Health Service Patient Database
 - Third-party Veterans Service Group of Illinois (VSGI) files

Administrative Records Research and Planning

Identifying Administrative Records Vacant Units

Housing Unit Status Model

- Data: 2010 Census NRFU addresses
- 2010 Census status
 - 1: Occupied
 - 2: Vacant
 - 3: Nonexistent/Delete
- Explanatory variables:
 - UAA flag and reason (e.g., vacant, no such number) on first and second mailing
 - Consistency of UAA reasons by ZIP code
 - Indicators for presence of persons in AR sources at address
 - Indicators for presence of these persons at other addresses
 - ACS area-level estimates: % renters, % poverty, % Black, etc.

Administrative Records Research and Planning

Identifying Administrative Records Vacant Units

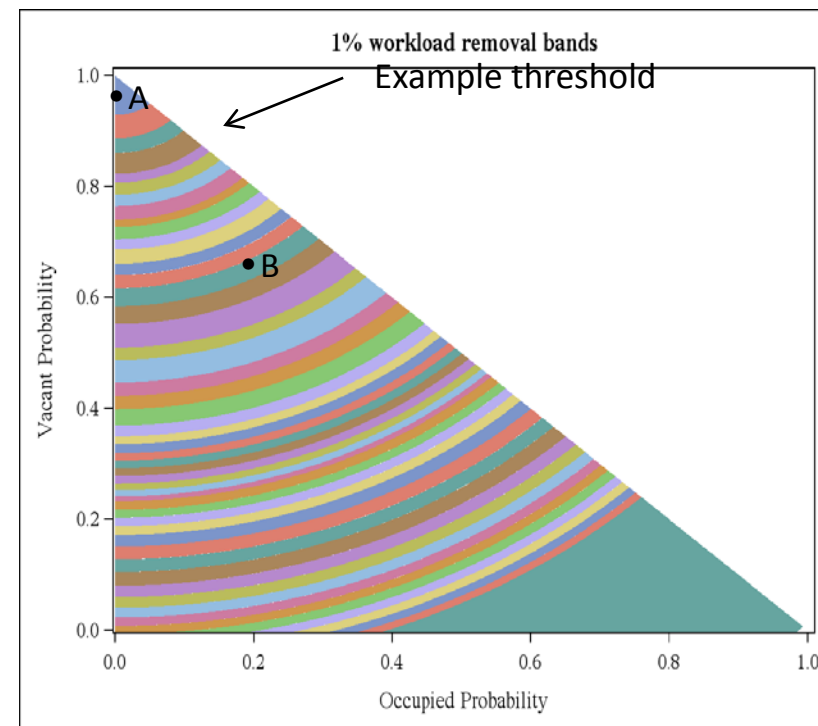
Distance Function

The distance function can be visualized as successive bands of cases emanating from the point (0,1) in the top left corner

Each successive band represents an additional 1 percent of the NRFU workload

In this example, unit A is identified as AR Vacant while unit B is not

Similar approach implemented for Nonexistent or addresses that need to be deleted



Administrative Records Research and Planning

Identifying Administrative Records Occupied Units

Can we reduce contacts for 101 Main Street?

1. Build a roster from administrative record sources
2. Check that multiple sources indicate the family lives at an address
3. Use statistical models to evaluate the roster
4. Decision for 101 Main Street

Administrative Records Research and Planning

Identifying Administrative Records Occupied Units

Data Sources

Core sources for occupied rosters:

- Internal Revenue Service
 - 1040 Individual Tax Returns
 - 1099 Information Returns
- Centers for Medicare and Medicaid Services Medicare Enrollment database
- Indian Health Service Patient database

Additional sources:

- Social Security Administration Number Identification (Numident) File
- Best Race and Hispanic Origin file from Center for Administrative Records Research and Applications (CARRA)
- United States Postal Service (USPS)
 - USPS Undeliverable-as-Addressed (UAA) reasons for census mailings made around April 1
 - Delivery Sequence File (DSF)
- Veterans Service Group of Illinois (VSGI) Name and Address Resource and TrackerPlus files

Administrative Records Research and Planning

Identifying Administrative Records Occupied Units

Data Sources Continued

Additional sources being researched:

- Department of Housing and Urban Development
 - Computerized Home Underwriting Management System (CHUMS)
 - Public and Indian Housing Information Center (PIC)
 - Tenant Rental Assistance Certification System (TRACS)
- Selective Service System registration
- USPS National Change of Address (NCOA)
- Supplemental Nutrition Assistance Program (SNAP) and other state program participation data
- CARRA's Kidlink file
- CoreLogic Tax and Deed information

Will continue to research sources, and will finalize in September 2018

Administrative Records Research and Planning

Identifying Administrative Records Occupied Units

Evaluation

101 Main Street

- Juan Garcia 43 year old male Hispanic
- Maria Garcia 40 year old female Hispanic
- Jose Garcia 17 year old male Hispanic
- Lucy Garcia 14 year old female Hispanic

Research Questions:

- How likely is it that we are counting all of the Garcia family in the right place?
- How likely is it that the household composition of the Garcia family matches the Census?

Administrative Records Research and Planning

Identifying Administrative Records Occupied Units

Person-Place Model

How likely is it that we are enumerating the Garcia family at the right place?

- Use 2010-vintage data
- 50 million NRFU addresses
- Use 2010-vintage administrative records for those addresses
- Dependent variable: 2010 Census status
 - 1: AR person-place pair is observed in 2010 Census
 - 0: AR person-place pair is not observed in 2010 Census
- Independent variables:
 - Properties of the address: AR count and composition, UAA, etc.
 - Indicators for presence of AR sources at address
 - Indicators for presence of AR sources at other addresses
 - ACS area-level estimates: % renters, % poverty, % Black, etc.
- Process - Based on 2010 relationship, we can assign probabilities to current vintage of AR data

Administrative Records Research and Planning

Identifying Administrative Records Occupied Units

Person-Place Model

How likely is it that we are enumerating the Garcia family at the right place?

- Juan Garcia 0.80
 - Maria Garcia 0.78
 - Jose Garcia 0.75
 - Lucy Garcia 0.70
-
- To evaluate the entire roster, we use the smallest probability of a person at the address.
-
- Lucy Garcia 0.70 value used for 101 Main Street

Administrative Records Research and Planning

Identifying Administrative Records Occupied Units

Household Composition Model

How likely is it that the household composition of the Garcia family matches the Census?

- Household composition categories
 - 0: Vacant/Delete (i.e., not occupied)
 - 1: 1 adult, 0 children
 - 2: 1 adult, 1+ children
 - 3: 2 adults, 0 children
 - 4: 2 adults, 1+ children
 - 5: 3 adults, 0 children
 - 6: 3 adults, 1+ children
 - 7: Other
-
- Use 2010-vintage data
 - 50 million NRFU addresses
 - Use 2010-vintage administrative records for those addresses

Administrative Records Research and Planning

Identifying Administrative Records Occupied Units

Household Composition Model

How likely is it that the household composition of the Garcia family matches the Census?

- Independent variables
 - AR household composition
 - Properties of the address: AR count, UAA, etc.
 - Indicators for presence of AR sources at address
 - Indicators for presence of AR sources at other addresses
 - ACS area-level estimates: % renters, % poverty, % Black, etc.
- Given that we have 2 adults with 1+ children based on the Garcia family from administrative record, what is the probability that the Census would have enumerated 2 adults with 1+ children at the address?
- For our example, the Garcia family receives a .8 probability.

Administrative Records Research and Planning

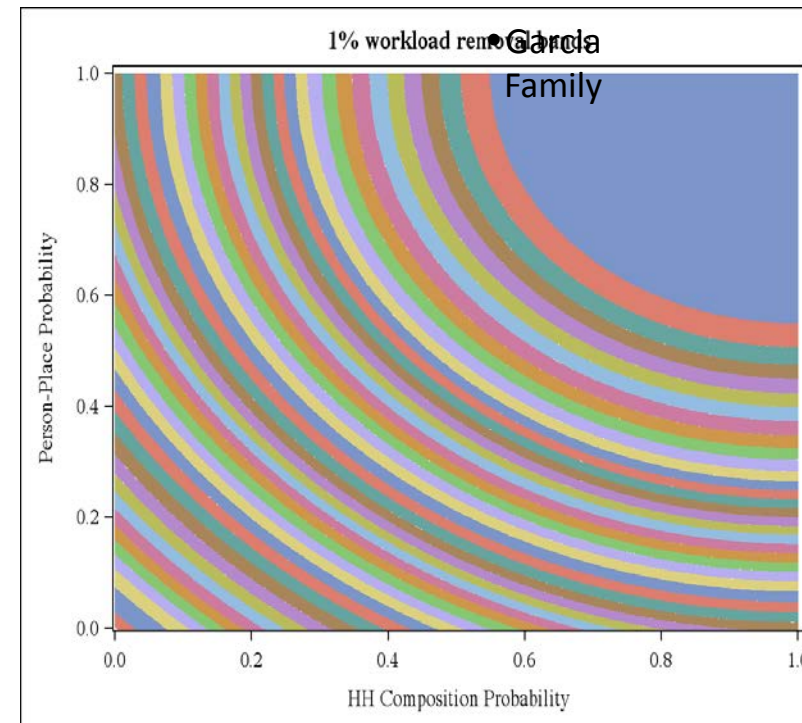
Identifying Administrative Records Occupied Units

Distance Function

The distance function can be visualized as successive bands of cases emanating from the point (1,1) in the top right corner

Each successive band represents an additional 1 percent of the NRFU workload

In this example, the Garcia family is in our top 1 percentile of administrative record rosters.



Administrative Records Research and Planning

Characteristics

Administrative Records Source Possibilities

Age and Sex

- Census Numident

Race and Hispanic Origin

- Prior Census, American Community Survey, or other Census Bureau responses
- Country of Origin (Census Numident)
- Census Bureau Best Race and Hispanic Origin file

Relationship to Householder

- Census Bureau KIDLINK file

Tenure

- Housing and Urban Development
- Tax and Deed Information

Detailed Vacancy

- Housing and Urban Development

Administrative Records Research and Planning

Results: 2016 Census Test Analysis

Administrative Records Research and Planning

2016 Census Test

Administrative record determination

- Occupied
- Vacant
- Delete

1-in-5 sample of administrative record cases received full fieldwork

- Compare our determinations to fieldwork results
- No address canvassing done before this test

Administrative Records Research and Planning

2016 Census Test Results

1-in-5 Sample Evaluation Analysis

	Total	Occupied		Vacant		Delete		Unresolved	
	N	%	SE	%	SE	%	SE	%	SE
AR Vacant									
Total	715	21.1	1.3	42.8	1.6	20.7	1.2	15.4	1.2
LA County	236	19.9	2.3	43.2	2.9	22.5	2.3	14.4	2.1
Harris County	479	21.7	1.6	42.6	2.0	19.8	1.5	15.9	1.4
AR Delete									
Total	313	29.1	2.1	10.9	1.4	48.6	2.2	11.5	1.7
LA County	172	24.4	2.9	7.6	1.9	57.0	3.3	11.0	2.2
Harris County	141	34.8	3.2	14.9	2.1	38.3	2.7	12.1	2.5

Administrative Records Research and Planning

2016 Census Test Results

USPS UAA Reasons for AR Vacant and AR Delete Units Determined Fieldwork Occupied

UAA Reasons for AR Vacant/Fieldwork Occupied Units

Reasons	Number	Percent
Vacant in both	86	57.0%
Vacant in one	29	19.2%
Any other reason twice	25	16.6%
Any other reason once	11	7.3%
Total	151	100.0%

UAA Reasons for AR Delete/Fieldwork Occupied Units

Reasons	Number	Percent
No Such Number in both	26	28.6%
No Such Number in one	29	31.9%
Any other reason twice	27	30.8%
Any other reason once	9	9.9%
Total	91	100.0%

Administrative Records Research and Planning

Mailing for Administrative Record Cases

	AR Occupied (Phase 1)		AR Vacant		AR Delete	
	Count	%	Count	%	Count	%
Total	9,353		2,856		1,252	
AR Mailing Sent	8,418		2,848		1,252	
UAA on AR Mailing Sent	125	1.5	1,631	57.3	944	75.4

For 6 weeks after Census Day

AR Occupied were UAA 1.5 percent of the time.
People could have moved out since Census Day.

AR Vacant were UAA 57.3 percent of the time.
People could have moved in since Census Day.

AR Delete were only UAA 75.4 percent of the time.
Seems less likely to change from not a housing unit to a housing unit.

Administrative Records Research and Planning

Results: 2010 Simulations Analysis

Administrative Records Research and Planning

Administrative Records Determination by Percent Hispanic Population in Block Group

ACS 5-Year Estimate of Percent of Block Group that is Hispanic	2010 NRFU Addresses (millions)	AR Determination (row percent)		
		AR Vacant (%)	AR Occupied (%)	Full Contacts (%)
0 to 10 percent	31.3	11.6	15.9	72.5
10 to 20 percent	6.8	9.4	15.7	74.9
20 to 30 percent	3.6	8.5	14.4	77.1
30 to 40 percent	2.2	7.6	13.3	79.1
40 to 50 percent	1.6	7.5	12.0	80.5
50+ percent	4.2	4.3	9.6	86.1
Total	49.8	10.1	15.0	74.9

Administrative Records Research and Planning

Administrative Records Determination by Percent Non-Hispanic Black Population in Block Group

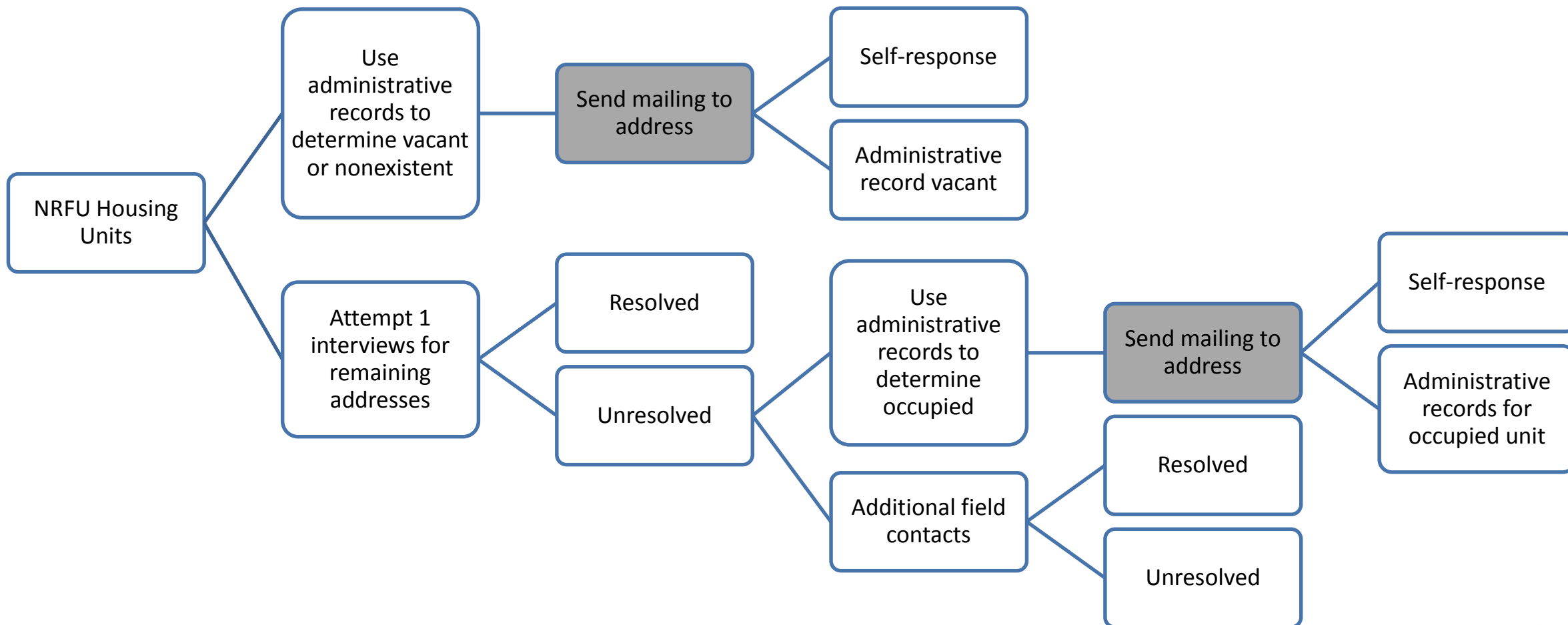
ACS 5-Year Estimate of Percent of Block Group that is Non-Hispanic Black	2010 NRFU Addresses (millions)	AR Determination (row percent)		
		AR Vacant (%)	AR Occupied (%)	Full Contacts (%)
0 to 10 percent	33.6	10.5	16.0	73.5
10 to 20 percent	5.4	8.2	15.6	76.2
20 to 30 percent	2.9	8.1	14.1	77.8
30 to 40 percent	1.8	8.3	13.0	78.7
40 to 50 percent	1.2	8.9	11.9	79.2
50+ percent	4.9	12.1	9.6	78.3
Total	49.8	10.1	15.0	74.9

Administrative Records Research and Planning

Changes to 2018 Contact Strategy

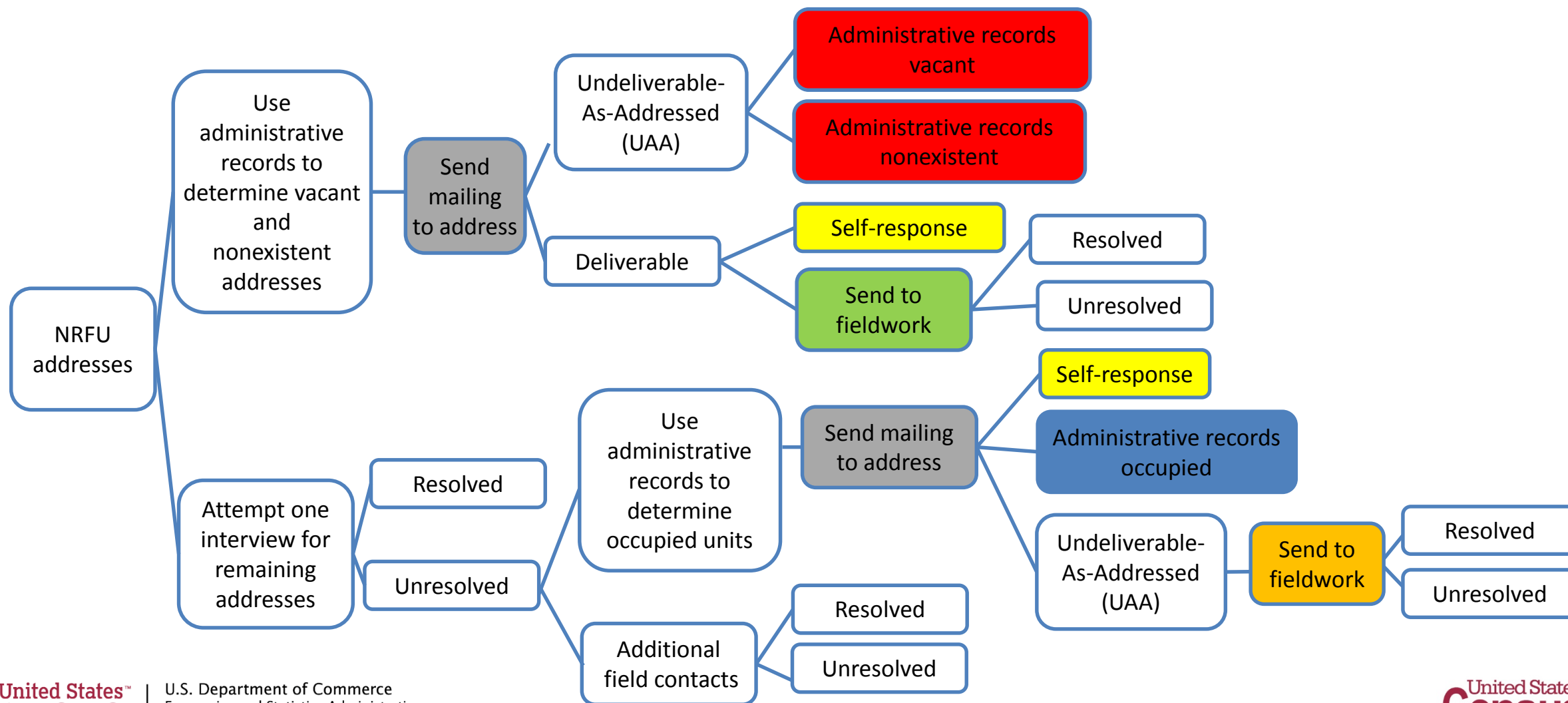
Administrative Records Research and Planning

2016 Contact Strategy



Administrative Records Research and Planning

2018 End-to-End Census Test Proposed Contact Strategy



2018 End-to-End Census Test: Nonresponse Followup

2018 End-to-End Census Test:

Overview

- April 1, 2018 Census Day
- Site test in Pierce County, Washington; Providence County, Rhode Island; and, Bluefield-Beckley-Oak Hill, West Virginia

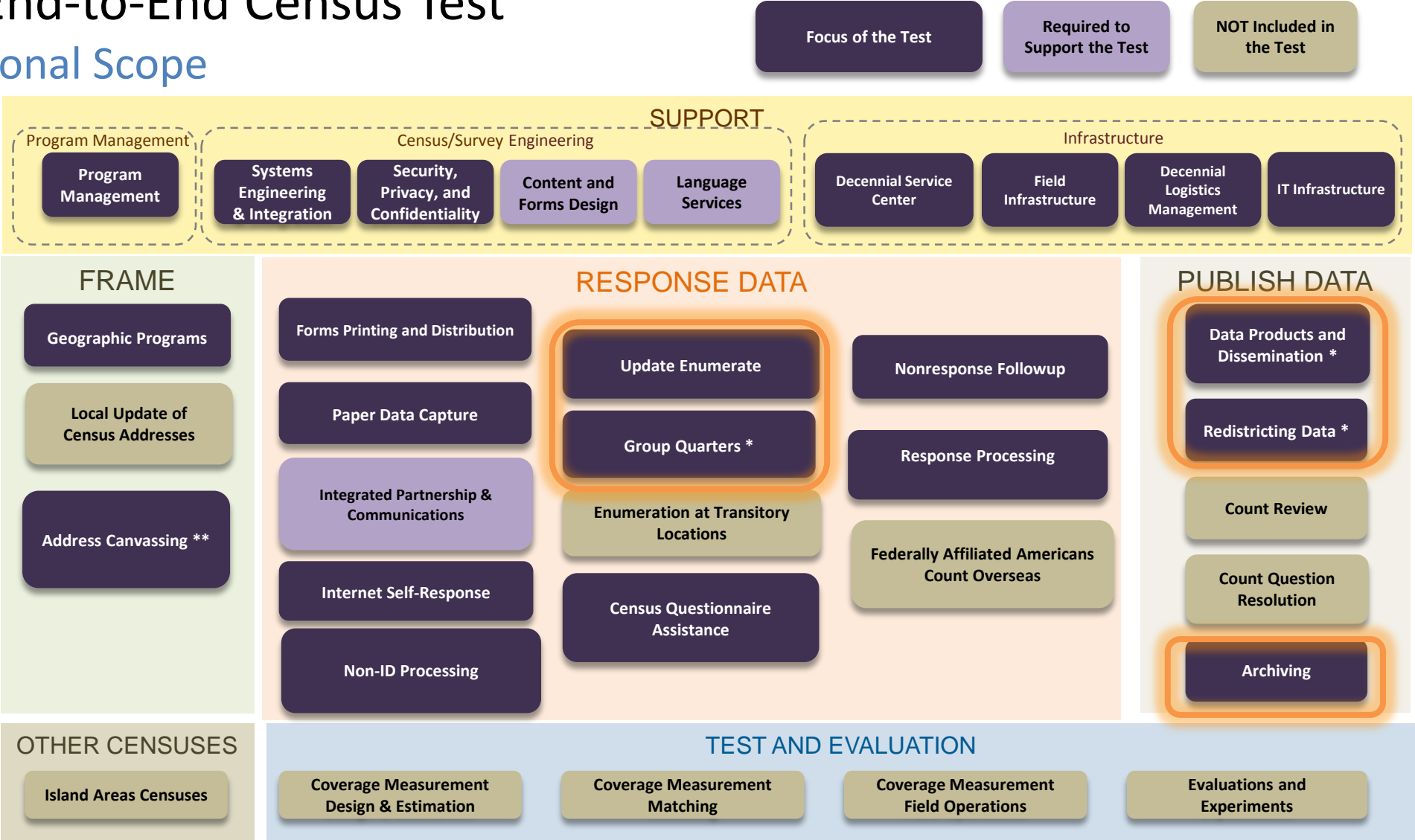
Goals:

- Validate that the operations in scope for the 2018 End-to-End Census Test are ready to go into production for the 2020 Census
- Test and validate major operational threads, procedures, systems, and infrastructure (IT and non-IT) together to ensure proper integration and conformance with functional and nonfunctional requirements
- Produce a prototype of geographic and data products



2018 End-to-End Census Test

Operational Scope



(*) – Not in scope for test sites descope from 2017 Census Test and 2017 Puerto Rico Census Test that may be added to the 2018 End-to-End Census Test.

(**) – For test sites descope from 2017 Census Test and 2017 Puerto Rico Census Test that may be added to the 2018 End-to-End Census Test, only In-Office Address Canvassing is in scope.

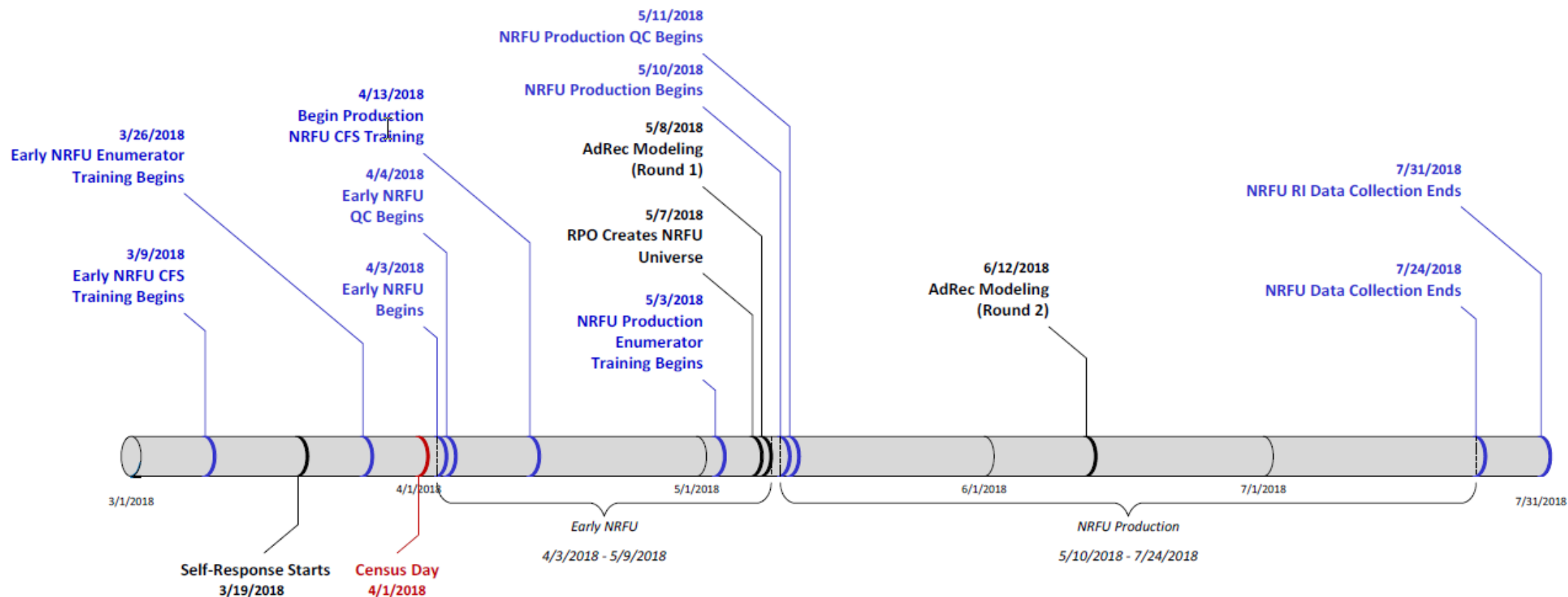
2018 End-to-End Census Test

Key Activities

Activity	Date	
Conduct In-Office Address Canvassing	October 27, 2016 – February 2, 2017	✓
Open Regional Census Centers	January 3, 2017	✓
Begin Address Canvassing Field Staff Recruitment	March 10, 2017	✓
Open Area Census Offices	March 31, 2017*	
Conduct In-Field Address Canvassing	August 14 – September 29, 2017	
Conduct Group Quarters Advance Contact	January 5 – March 9, 2018	
Conduct Self-Response, Including Non-ID Processing	March 19 – July 31, 2018	
Conduct Group Quarters Enumeration	March 28 – June 12, 2018	
Census Day	April 1, 2018	
Conduct Early Nonresponse Followup	April 3 – May 9, 2018	
Conduct Nonresponse Followup Reinterview	April 4 – July 31, 2018	
Conduct Update Enumerate	April 16 – June 16, 2018	
Conduct Nonresponse Followup	May 10 – July 24, 2018	
Publish Prototype P.L. 94-171 Data and Geographic Products	April 1, 2019	

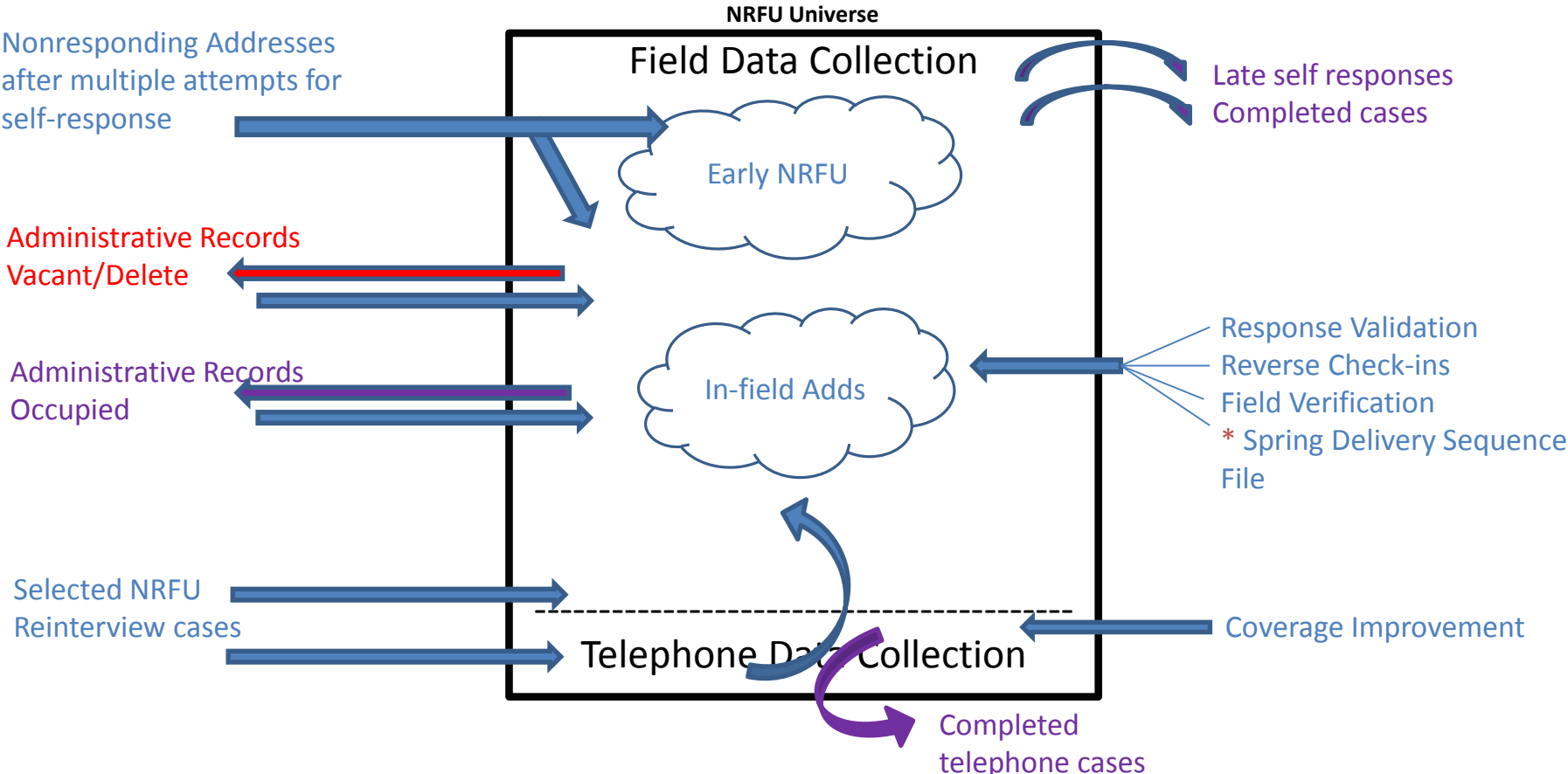
2018 End-to-End Census Test

Nonresponse Followup – Field Data Collection Timeline



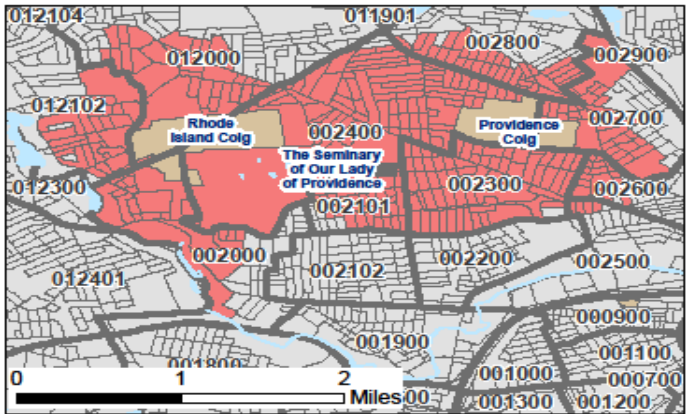
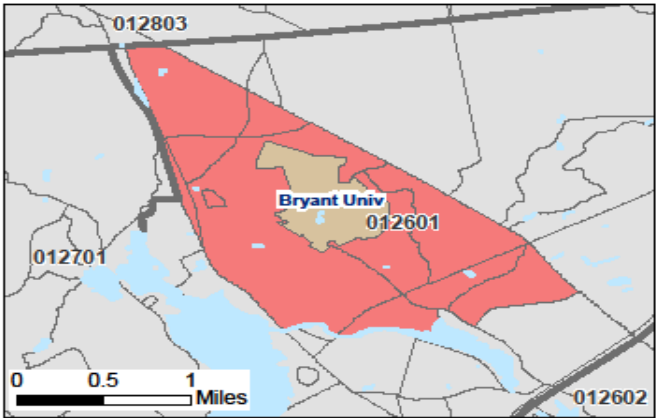
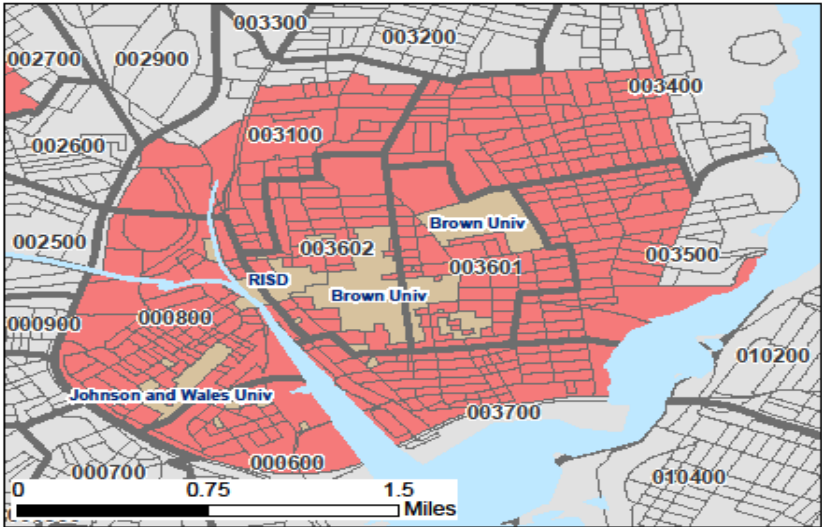
2018 End to End Census Test

Nonresponse Followup Universe



2018 End-to-End Census Test

Early Nonresponse Followup



Providence, RI Early-NRFU

- Early-NRFU BCUs
- College or University
- Tract
- Water



2018 End-to-End Census Test

Nonresponse Followup – Enumerator Training

- Moving from 2010, using a 100% cascaded, verbatim, and all-classroom style training, to a blended learning approach of online and classroom training
- Online training benefits include: self-paced training, a truly standardized delivery approach, use of an interactive training approach, and easier ability to incorporate edits into training
- Moving from 100% classroom based verbatim-style training to self-paced online and facilitated classroom instruction, augmented with hands-on practice using the devices (e.g. smartphones, laptops, tablets)
- Online training use of scenario-based videos, demonstrations, and simulations of how the device operates
- Automated knowledge and skills assessment vs a hand-scored and corrected paper test
- Use of electronic manuals and job aids to support field staff's on-the-job performance. Encourages use of the manual due to searchability of content

2018 End-to-End Census Test

Nonresponse Followup – Field Data Collection Contact Strategy

- Administrative Records modeling determines initial contact strategies
 - Vacant/Delete: Removed from nonresponse followup workload
 - Occupied: Receives one contact attempt
 - No Determination: Receives maximum of 6 contact attempts
- Nonresponding addresses become proxy eligible when:
 - Third contact attempt at census address is unsuccessful
 - Enumerator observes a unit is vacant or not a housing unit
 - Supervisor determines a case should be proxy eligible or proxy required
 - Maximum daily limit of three proxy attempts
- Contact strategies for multiunits
 - Interview building manager to remove vacant units from nonresponse followup workload
 - Same enumerator assigned manager interviews for all multiunits in a Basic Collection Unit
- Non-ID Field Verification cases receive one attempt
- Self-responding vacant cases receive one attempt
- Response Validation Re-collect cases receive maximum of three contact attempts

2018 End-to-End Census Test

Nonresponse Followup – Multiunit Manager Visits

Purpose: Resolution of occupancy status for units at multiunit structures via an interview with a ‘manager’

Process:

- Grouping of nonresponding addresses within a multiunit
- Enumerator attempts contact with ‘manager’
- Addresses by ‘manager’ as vacant or nonexistent are designated as such and are not subject to additional contact attempts
- Addresses identified by manager as ‘occupied’ or left undetermined will be assigned for contact attempts by an enumerator to collect response data

2016 Census Test Findings:

- Manager visits successfully identified the occupancy status of nonresponding units, thus reducing enumerator attempts to resolve vacant units

2018 End-to-End Census Test:

- Increase in the number of units at a Basic Street Address that triggers a eligibility for a manager visit
- Maximum of two manager visit attempts before assigning nonresponding units for enumeration attempts

2018 End-to-End Census Test

Nonresponse Followup – Field Verification

Purpose: To verify the existence of addresses resulting from Non-ID self-responses that could be assigned to a Census Basic Collection Unit (BCU) or block and identified as new to the Master Address File

Process:

- Non ID self-response received
- Address completes Non ID processing including automated matching and/or clerical processing
- Identify “new” geocoded MAF addresses for field work – Field Verification (FV) workload
- FV cases added to the NRFU workload
- Enumerator attempts to locate the FV address and capture status
- No capture of response data
- No use of Notice of Visit correspondence

2018 End-to-End Census Test

Nonresponse Followup – Proxy Enumeration

Proxy Enumeration: Occurs when attempts to contact a household member to determine/occupancy status and complete a census enumeration are unsuccessful and when a person with sufficient knowledge is identified to provide the census enumeration

Proxy Eligibility:

- Cases become proxy eligible on the third unsuccessful attempt
- In-moves become immediately proxy eligible
- Vacant by observation, nonresidential, address does not exist, etc., are immediately proxy eligible

2016 Census Test Findings:

- Challenges acquiring proxy responses
- Additional enumerator training to emphasize the importance of proxies and proxy procedures
- Contributing factor to the unresolved rate

2018 End-to-End Census Test:

- Enhanced training on proxy concepts
- Modifications to enumeration application to capture occupancy status and housing unit population (in the case of occupied units) early in the proxy interview

2018 End-to-End Census Test

Nonresponse Followup – Quality Control

- Quality is infused throughout the operation
 - Automated edits within the application
 - Operational Control System Alerts
- Quality Control Reinterview
 - All cases reviewed by SMarCS for indications of falsification using Administrative Records and paradata
 - Suspicious cases sent for telephone reinterview (via CQA); then case is sent to the field if necessary
 - SMarCS will select up to a 10 percent sample for reinterview
 - One staff conducts field data collection for both NRFU production and NRFU Reinterview

2018 End-to-End Census Test

Nonresponse Followup – Operational Control System Enhancements

Additional Operational Control System Alerts

Alert Name	Description
Proxy Attempts	When two or more cases were proxy eligible but the employee did not enter any proxy attempts into the enumeration application device.
Reopening Cases	When an employee opens two or more inactive cases but did not complete them.
Working Before Assigned Hours	When an employee attempts a case more than 30 minutes before their assigned start time.
Unconfirmed Delete	When an employee has two or more deletes that are not confirmed for UE FU and NRFU assignments.
High Field Resolution Rate	When an employee has a high field resolution rate.
Low Cases per Hour	An employee has worked a low number of cases/hour compared to peer (where peers are defined as other employees working in a similar geographic area).
High Cases per Hour	An employee has worked a high number of cases / hour compared to peers.

Enumerator Training

Questions?

Break

2020 Census Operations

Deborah Stempowski

Decennial Census Management Division

Brian Timko

Geography Division

Jennifer Kim

Decennial Census Management Division

Greg Hanks

Geography Division

Local Update of Census Addresses Update

Brian Timko

Geography Division

Local Update of Census Addresses

Background:

- Authorized by the Census Address List Improvement Act of 1994 (Public Law 103-430)
- Implemented in the support of the 2000 Census and refined to support the 2010 Census
- Provides a voluntary opportunity for designated representatives of tribal, state and local governments to review and comment on the addresses used to conduct the decennial census

What's New for 2020 LUCA:

- **Offers** streamlined participation – Full Address List Review
- **Provides** the digital address list in convenient standard software formats
- **Includes** ungeocoded address records for state and county participants
- **Requires** residential multiunit structure identifiers (e.g., Apt 1, Unit A2, #3001, etc.)
- **Includes** residential structure coordinates, if available
- **Allows** participants to submit residential structure coordinates, if available
- **Allows** participants to submit non-city style addresses with corresponding map spot

Local Update of Census Addresses

Where are we Now?

- ✓ Completed the Advance Notice mailing
- ✓ Opened the LUCA Geographic Programs Support Desk
- ✓ Posted address block count lists on the LUCA website
- Preparing to create the LUCA materials and process the returns
- Refining processes to match LUCA records to MAF/TIGER System
- Developing training and user materials for partners

Local Update of Census Addresses

Address Count List

How Can I Review The Address Block Counts for My Entity?

The 2020 Census LUCA Address Block Count files are available for download from our FTP site. Please select American Indian Areas, a state, the District of Columbia or Puerto Rico from the menu below. For the states, DC and PR, after you select your state, click on the folder of your entity type (county, place, or mcd for Minor Civil Divisions) or use the Address Block Count List Locator file to determine which folder your entity's Address Block Count file is stored in. More information about [opening and saving your file as a Microsoft Excel file](#). [PDF]

Select AIA or a State ▼

GO

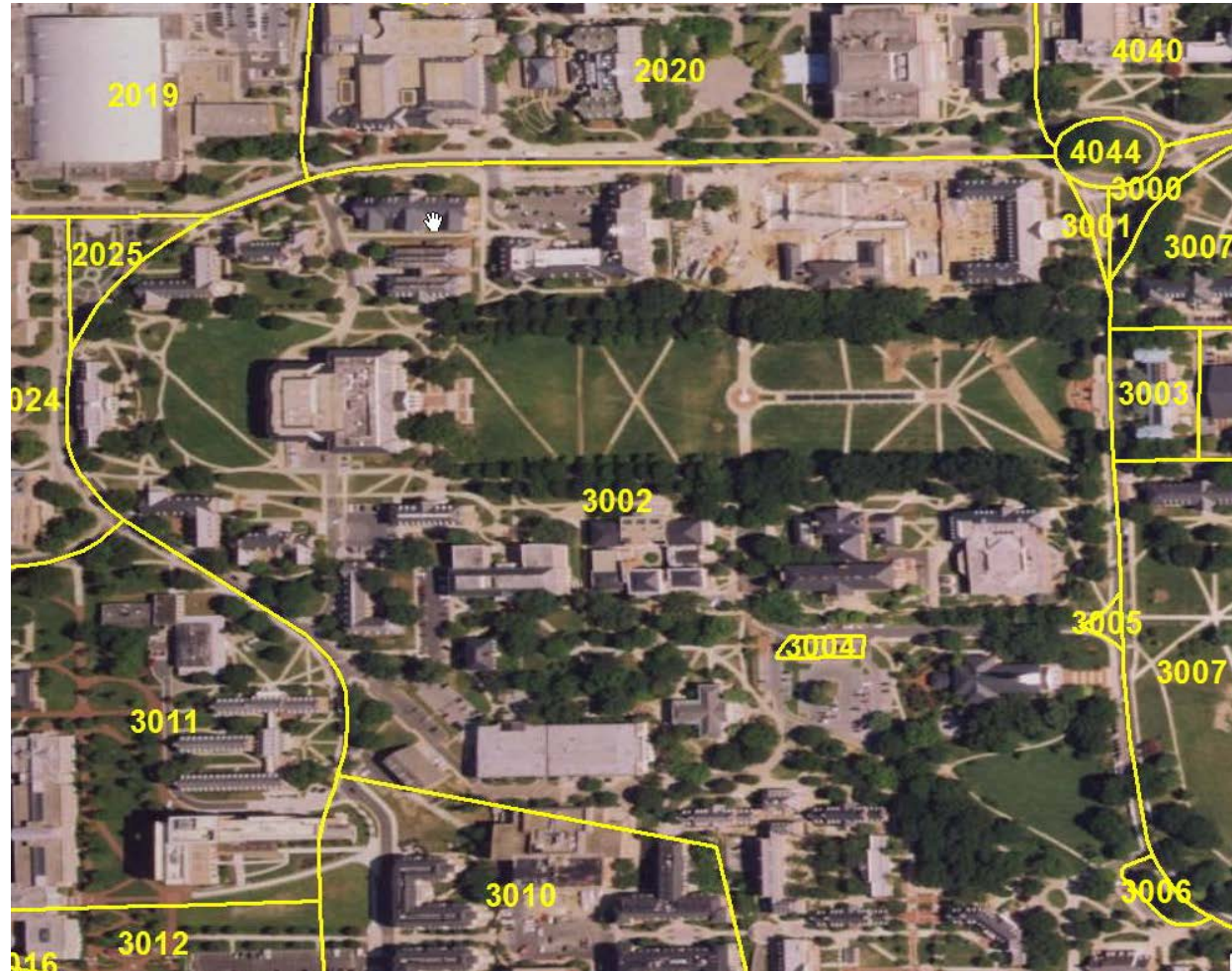
To view your Address Block Counts on a map, download the **block** layer [2016 TIGER/Line shapefiles](#) for your state and follow the instructions for [Joining Census Data to TIGER/Line Shapefiles](#) [PDF].

State	County	Tract	BLOCK	BLOCK_GEOID	Total Residential	Total Group Quarters
24	033	8072.00	1036	240338072001036	17	0
24	033	8072.00	3001	240338072003001	0	0
24	033	8072.00	3002	240338072003002	0	18
24	033	8074.05	3046	240338074053046	0	0
24	033	8074.05	3047	240338074053047	6	0
				TOTAL	343,337	450

<https://www.census.gov/geo/partnerships/luca.html>

Local Update of Census Addresses

Shapefiles/TIGERweb



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Local Update of Census Addresses

Geocoder Tool

- Current tool can process as many as 10,000 addresses at a time
- Alternate path for partners submitting more than 10,000 addresses at a time

Input Address	Match	Match Type	Lat/Long	Tiger/Line ID	Side	State	County	Tract	Block
101 Marietta Street NW Suite 3200, Atlanta, GA, 30303-2700	Match	Exact	-84.39224,33.756588	17344104	R	13	121	11900	2015
101 Marietta Street, Suite 3200, Atlanta, GA, 30303-2700	Match	Non_Exact	-84.39224,33.756588	17344104	R	13	121	11900	2015
1111 W. 22nd Street Suite 400, Oak Brook, IL, 60523-1918	Match	Exact	-87.94587,41.84698	112548696	L	17	043	844601	1072

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Local Update of Census Addresses

Non-City Style Addresses

Acceptable with map spots:

- Location Description
- Rural Route
- Highway Contractor Route

Not Acceptable:

- Post Office Boxes



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Local Update of Census Addresses

Schedule

Activity	Date	
Advance notice mailed to Highest Elected Officials, Tribal Chairs, Governors, and other LUCA contacts	January 2017	✓
LUCA promotional workshops begin	March 2017	✓
LUCA invitation and registration materials mailed to Highest Elected Officials, Tribal Chairs, and Governors	July 2017	
LUCA training workshops begin	October 2017	
Participants review and update the Census Bureau's address list	February – April 2018	
Process LUCA submissions	February – September 2018	

Questions?

2020 Census Language Program

Jennifer Kim

Decennial Census Management Division

2020 Census Language Program

Overview

- Identify ways to reduce language barriers for respondents of Limited English Proficiency (LEP)
- Determine the optimal level of support in non-English languages for LEP households completing the 2020 Census
- Optimize the non-English content of questionnaires and associated non-questionnaire materials across data collection modes and operations
- Ensure cultural relevancy and meaningful translation of 2020 Census questionnaires and associated non-questionnaire materials

2020 Census Language Program

Mid-Decade Research on Language/Translation Services

Research and Testing

- Establishment National Advisory Committee Working Group on Language and feedback on non-English operations/materials
- Monitoring of language trends at the national, regional, and state levels
- Deployment of language services: 2014, 2015, 2016, 2017 Census Tests, 2015 National Content Test, 2018 End-to-End Census Test
- Ongoing cognitive/usability testing of non-English instruments and materials

Consultations

- Consultations with federal agencies and their translation/interpretation staff
- Participation in meetings with leading industry professionals
- Review of resources provided by other federal agencies

Innovations for 2020

Expansion of Translation Effort and Multilingual Research

Creation of a Translation Branch

- In-House Translation, Project/Contract Management, Terminology/Translation Research
- Adhere to translation practices as described in ASTM F2575 – *Standard Guide for Quality Assurance in Translation*
- Follow professional standards for terminology research and documentation

Multilingual Research

- Usability and cognitive testing of non-English data collection instruments and materials
- Feedback from respondents on translated wording
- Respondents of diverse education levels, household compositions, demography, geography, level of English proficiency

Innovations for 2020

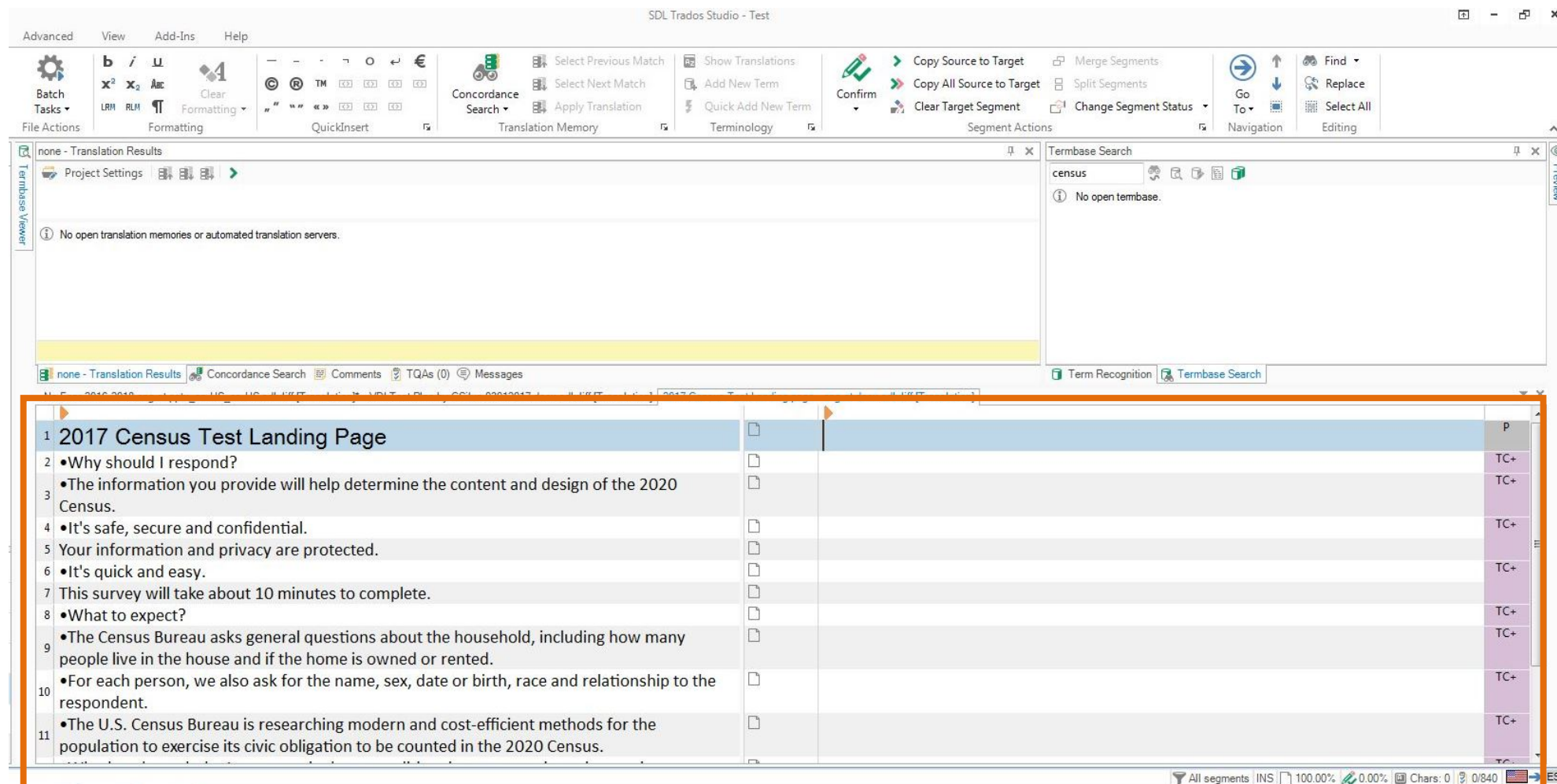
Translation Memory (TM)

Computer program that helps translators compare new text to previously translated text to increase their consistency, quality, and efficiency

- Automatically searches all previously translated text and provides matches to translators
- Increases style and terminology standardization
- Saves translators time researching previous translations and facilitate version control
- Not to be confused with online machine translation engines

Innovations for 2020

TM: Translation (Example)



Innovations for 2020

TM: Translation Revisions (Example)

Project Settings

Everybody must take No FEAR Act training within 120 days of appointment and on a subsequent period of every 3 years.

1

~~Every employee~~Everybody must take No FEAR Act training within 90 days of appointment and on a subsequent ~~cycle~~period of every ~~two~~3 years.

86%

Cada empleado debe cursar la capacitación de la Ley No FEAR a 90 días o menos de haber sido asignado a su puesto y en un ciclo subsiguiente de cada dos años.

Translation Studio - Project 5

Editor

Project Settings

Translation Results

1

Everybody must take No FEAR Act training within 120 days of appointment and on a subsequent period of every 3 years.

2

Cada empleado debe cursar la capacitación de la Ley No FEAR a 90 días o menos de haber sido asignado a su puesto y en un ciclo subsiguiente de cada dos años.

3

No FEAR Act

2/13/2017 11:44:25 AM 80C/usa004

Sample Updated Texts: [Translation]

Introduction

This training will familiarize you with the No FEAR Act and how it relates to you as a Commerce collaborator.

Everybody must take No FEAR Act training within 120 days of appointment and on a subsequent period of every 3 years.

This training module takes about 45 minutes to complete.

Introducción

Esta capacitación lo familiarizará con la Ley No FEAR y con cómo se relaciona a usted como empleado del Departamento de Comercio.

Cada empleado debe cursar la capacitación de la Ley No FEAR a 120 días o menos de haber sido asignado a su puesto y en un ciclo subsiguiente de cada dos años.

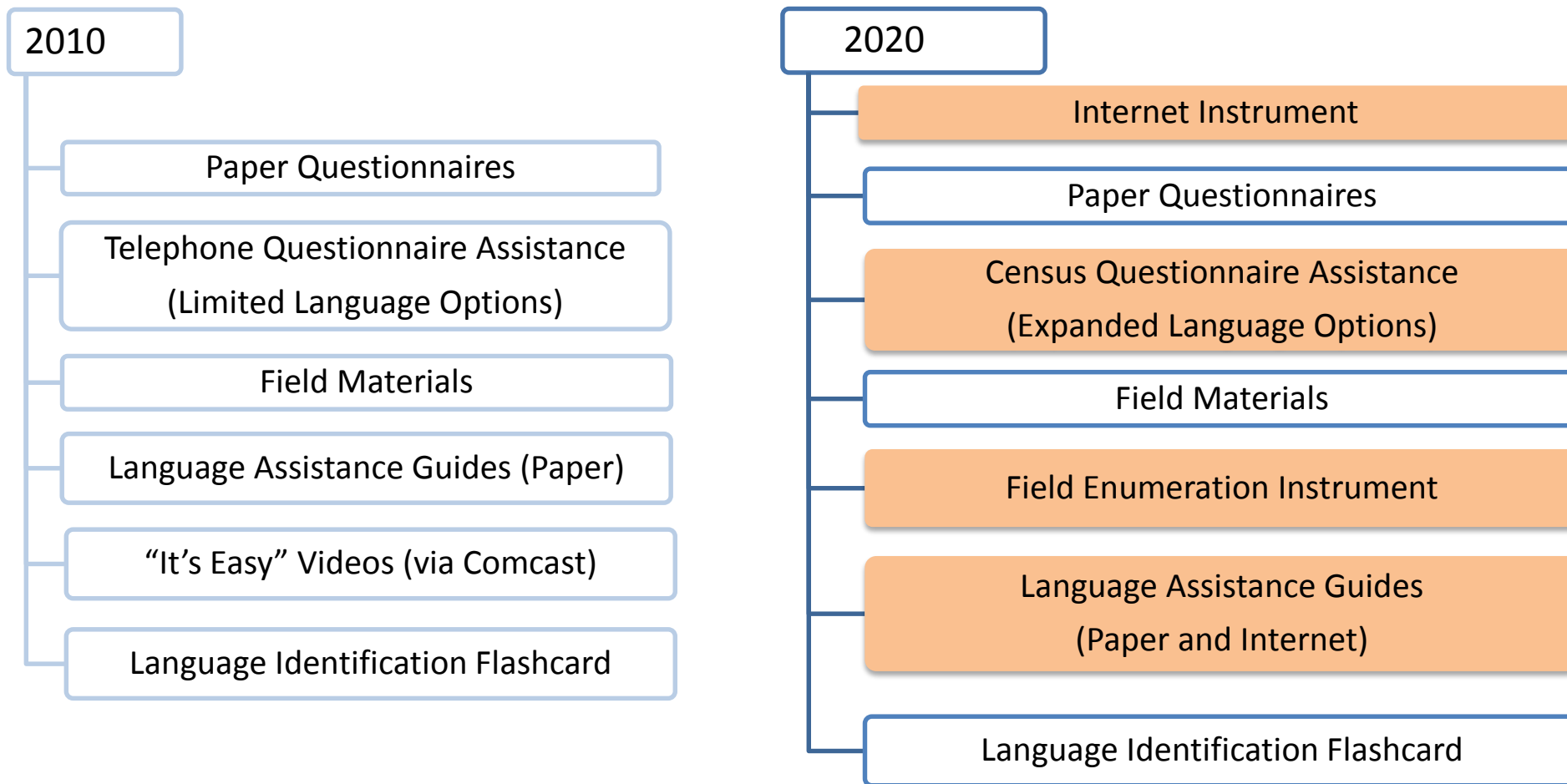
Innovations for 2020

TM: Search for Terminology (Example)

No Fear Act,Generic FLD Training Your Role as Enumerator,Generic FLD Training Interview Skills,Generic FLD Training Census Overview - Concordance Search				
respondent	Search Source			
If a respondent does not want to be interviewed, you should:	100%	Si un encuestado no quiere ser entrevistado usted debe:	TC	SourceFile FLD Training Your Role as Enumerator Eng_YourRoleasEnumeratorEspsdalign TargetFile FLD Training Your Role as Enumerator Eng_YourRoleasEnumeratorEspsdalign Quality 92
If a respondent is not home, you should leave a Notice of Visit somewhere where it cannot be seen from the street.	100%	Si un encuestado no está en casa, debe dejarle un Aviso de Visita en un lugar que no se vea desde la calle.	TC	SourceFile FLD Training Your Role as Enumerator Eng_YourRoleasEnumeratorEspsdalign TargetFile FLD Training Your Role as Enumerator Eng_YourRoleasEnumeratorEspsdalign Quality 92
You are most likely to be scheduled to work during the hours when most respondents are home: during the weekends or during the afternoons and evenings on week days.	100%	• Es más probable que se programe que trabaje durante las horas cuando la mayoría de los encuestados están en la casa: durante los fines de semana o durante las tardes y las noches de los días de semana.	TC	
Never violate a respondent 's privacy by peeking in a window or over a fence.	100%	Nunca viole la privacidad de un encuestado asomándose por una ventana o sobre una cerca.	TC	SourceFile FLD Training Your Role as Enumerator Eng_YourRoleasEnumeratorEspsdalign TargetFile FLD Training Your Role as Enumerator Eng_YourRoleasEnumeratorEspsdalign Quality 90
You can always ask a respondent to spell a name if you are unsure.	100%	Siempre le puede pedir al encuestado que deletree un nombre si no está seguro.	TC	SourceFile FLD Training Your Role as Enumerator Eng_YourRoleasEnumeratorEspsdalign TargetFile FLD Training Your Role as Enumerator Eng_YourRoleasEnumeratorEspsdalign Quality 90
A better idea would be to have the respondent spell the name for you.	100%	Una mejor idea es hacer que el encuestado le deletree el nombre.	TC	SourceFile FLD Training Your Role as Enumerator Eng_YourRoleasEnumeratorEspsdalign TargetFile FLD Training Your Role as Enumerator Eng_YourRoleasEnumeratorEspsdalign Quality 92
Reading the questions louder is disrespectful, as there is likely nothing wrong with the respondent 's hearing.	100%	Leer la pregunta en tono más alto podría ser irrespetuoso, ya que posiblemente no haya nada malo con la audición del encuestado.	TC	SourceFile FLD Training Your Role as Enumerator Eng_YourRoleasEnumeratorEspsdalign TargetFile FLD Training Your Role as Enumerator Eng_YourRoleasEnumeratorEspsdalign Quality 90
You are in the middle of an interview with a respondent .	100%	Está en medio de una entrevista con el encuestado.	TC	SourceFile FLD Training Your Role as Enumerator Eng_YourRoleasEnumeratorEspsdalign TargetFile
Generic FLD Training Your Role as Enumerator				
2/15/2017 9:18:02 AM BOC\toled004				
No Fear Act,Generic FLD Training Your Role as Enumerator,Generic FLD Training Interview Skills,Gener... No Fear Act,Generic FLD Training Your Role as Enumerator,Generic FLD Training Interview Skills,Gener... Comments TQAs (0) Messages				

2020 Census Language Program

Then and Now: Planned Changes for 2020



Examples of Instruments/Materials Planned for 2020


Internet Self-Response: Non-English Response Options

Example: 2016 Census Test non-English internet questionnaire

Examples of Instruments/Materials Planned for 2020

Census Questionnaire Assistance

- Conduct telephone interviews in non-English languages
- Provide general information and answers to questions about the 2020 Census and instructions on completing the the questionnaires
- Available in the same number of languages as the Internet instrument



UNITED STATES DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. Census Bureau
Washington, DC 20233-0001
OFFICE OF THE DIRECTOR

For help completing your 2017 Census Test questionnaire, call toll-free 1-844-330-2020.

Para recibir ayuda para completar su cuestionario de la Prueba del Censo del 2017, llame sin costo al número 1-844-468-2020.


如果您需要协助填写2017年人口普查测试问卷，请拨打免费电话 1-844-391-2020 (普通话)，1-844-398-2020 (粤语)。

2017년 인구 센서스 시범 조사에 도움이 필요하시면, 무료 번호 1-844-392-2020으로 전화해 주십시오.

Để được trợ giúp hoàn thành phiếu câu hỏi Điều tra Dân số Thử nghiệm năm 2017 của quý vị, hãy gọi đến đường dây miễn phí theo số 1-844-461-2020.

За помощь в заполнении вашей анкеты тестирования переписи 2017 года, позвоните бесплатно на 1-844-417-2020.

للحصول على مساعدة في إكمال استقصاء الإحصاء التجريبي لعام 2017، اتصل برقم الهاتف المجاني 1-844-416-2020.

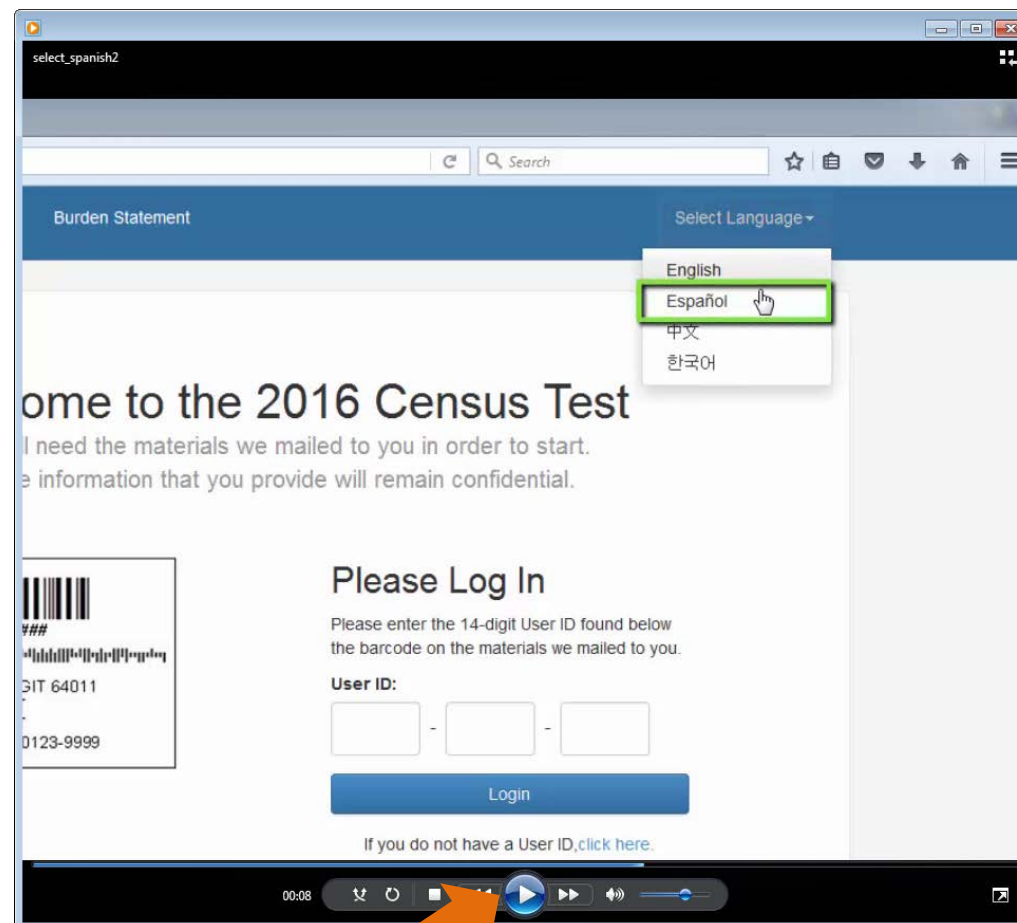


Example: 2017 Census Test Census Questionnaire Assistance Insert

Examples of Instruments/Materials Planned for 2020

Video Language Assistance Guides

- Assist non-English speaking respondents on filling out the Internet questionnaire
- Examples of video content:
 - What are the questions and why
 - Why participation is important
 - How to select the language
 - How to log in
 - How to navigate
 - How to submit
- Available via the internet
- Also used during partnership and communications events



Conceptual Example of Video Language Assistance Guide

Examples of Instruments/Materials Planned for 2020

Paper Language Assistance Guides

- Assist non-English speaking respondents who prefer the paper questionnaires or do not have easy access to the Internet
- Show English questionnaire
 - Highlight English text
 - Provide translated text with highlighted English text
- Printed copies available for partnership and communications

Reference

Issued

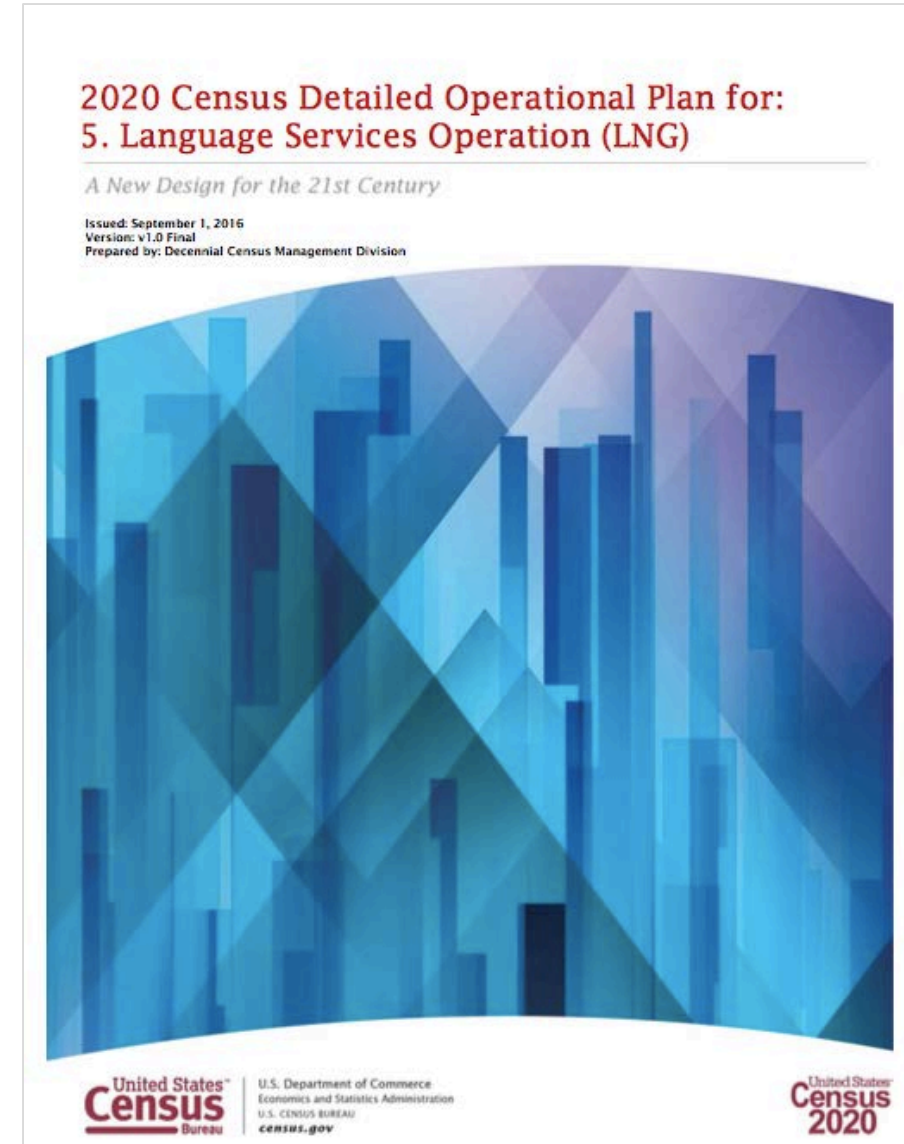
2020 Census Language Services Detailed Operational Plan

- Purpose and processes for language services operation
- Available online

Forthcoming

2020 Census Language Support Plan

- Final list of languages to support the 2020 Census
- Level of support for each language
- To be issued later this year



Questions?

Partnership with United States Postal Service

Greg Hanks

Geography Division

United States Postal Service and Census Bureau Partnership

Overview

1. The Partnership
2. Ongoing Activities
3. 2018 End-to-End Census Test Activities

United States Postal Service and Census Bureau Partnership

Collaborative Value in a USPS-Census Bureau Partnership

The Census Bureau and the United States Postal Service (USPS) partnership incorporates focus areas from each agency to ensure that collaborative value is achieved.

USPS FOCUS AREAS

- Delivering world class customer experience
- Equip, empower, and engage employees
- Innovate faster to deliver value
- Invest in future platforms



CENSUS BUREAU FOCUS AREAS

- Re-engineering Address Canvassing
- Optimizing Self-Response
- Utilizing Administrative Records and Third-Party Data
- Re-engineering Field Operations



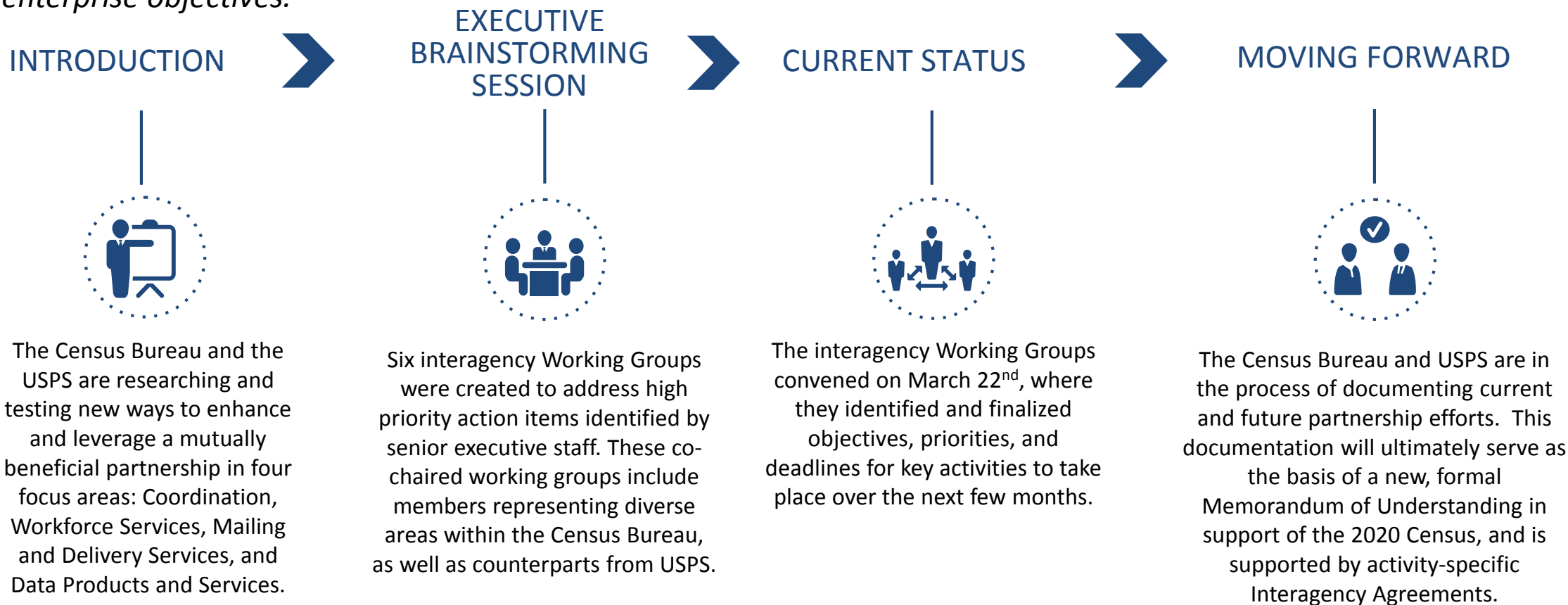
COLLABORATIVE VALUE

- Focus on collaboration in workforce services, mailing and delivery services, and data products and services:
 - Partnership on mailing allows USPS to deliver world class customer experience; helps the Census Bureau re-engineer field operations around UAAs.
 - Partnership on enumeration presents cost savings for the Census Bureau and a potential opportunity for USPS.
 - Partnership on data products and services enables USPS to innovate faster to deliver value and assists the Census Bureau in optimizing self-response.

United States Postal Service and Census Bureau Partnership

Partnership Background

The Census Bureau and the USPS have an active and longstanding partnership that is expanding to encompass enterprise objectives.



United States Postal Service and Census Bureau Partnership

Partnership Approach

USPS-Census Bureau areas of cooperation are organized into the categories included in the diagram below.



MAILING AND DELIVERY SERVICES: Continuously improving the current approach and processes for mailing services (e.g. Print contract verbiage, mail flow schedule, holiday mailer)



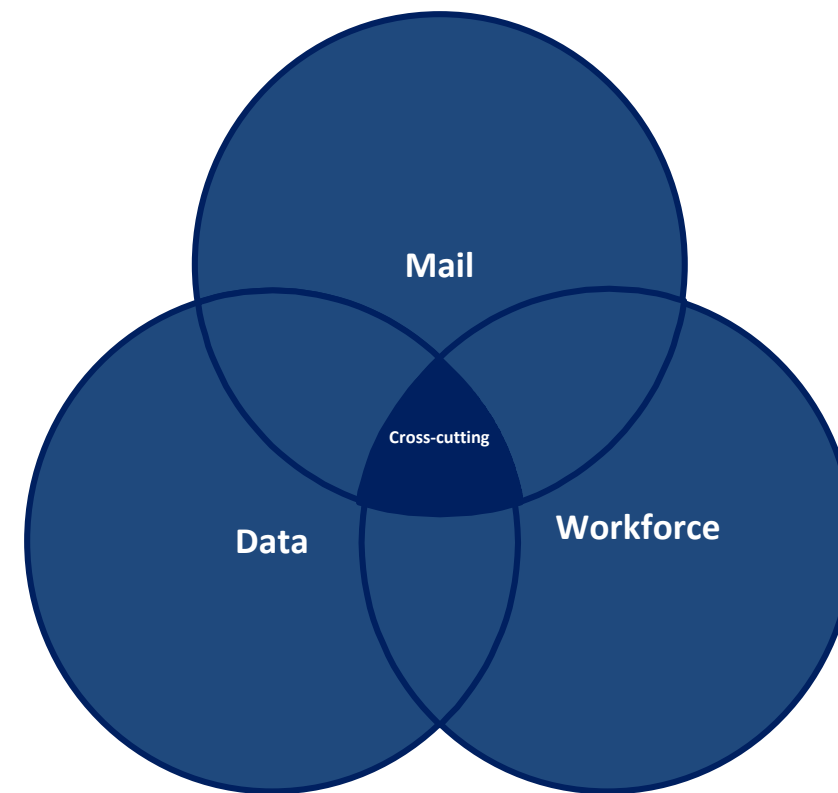
DATA PRODUCTS AND SERVICES: Data that the partnership utilizes and shares



WORKFORCE SERVICES: Exploring all possibilities for using shared labor to create innovative models and solutions by utilizing new resources



CROSS-CUTTING: Initiatives supporting the working group structure and the development of a long term governance model, mapping partnership processes, and capturing institutional knowledge



United States Postal Service and Census Bureau Partnership

Ongoing Activities

USPS-Census Bureau are cooperating on ongoing activities in each of the enterprise areas.

MAIL

- Exploring the use of “Every Door Direct Mail” to deliver postcards announcing our recruiting campaign and Internet Response option
- Track disposition of paper questionnaires in the mail stream by using postal tracing

DATA

- Update the Master Address File with new addresses from the Delivery Sequence File
- Utilize the “Undeliverable as Addressed” data for the 2018 End-to-End Census Test to remove cases from Nonresponse Followup
- Use of carrier route data to improve address geocoding in the Master Address File

WORKFORCE

- Collaborate on hiring temporary Census Bureau field workers for the 2018 End-to-End Census Test; utilizes established USPS process for Onboarding
- Pilot testing the use of Postal Carriers as Enumerators

United States Postal Service and Census Bureau Partnership

2018 End-to-End Census Test Activities



Enumeration Pilot

A pilot would test the use of postal carriers as enumerators as part of Nonresponse Followup.



Community Engagement

A marketing and outreach campaign could place signage, flyers, and other materials in Post Offices to encourage response.



Interactive Kiosk

Interactive kiosks could be enabled in Post Offices to allow customers to fill out their Census questionnaire.



Informed Delivery

A subscription service where customers receive a preview of their mail via email; allows for interaction with some mail content via barcode or similar technology



Onboarding

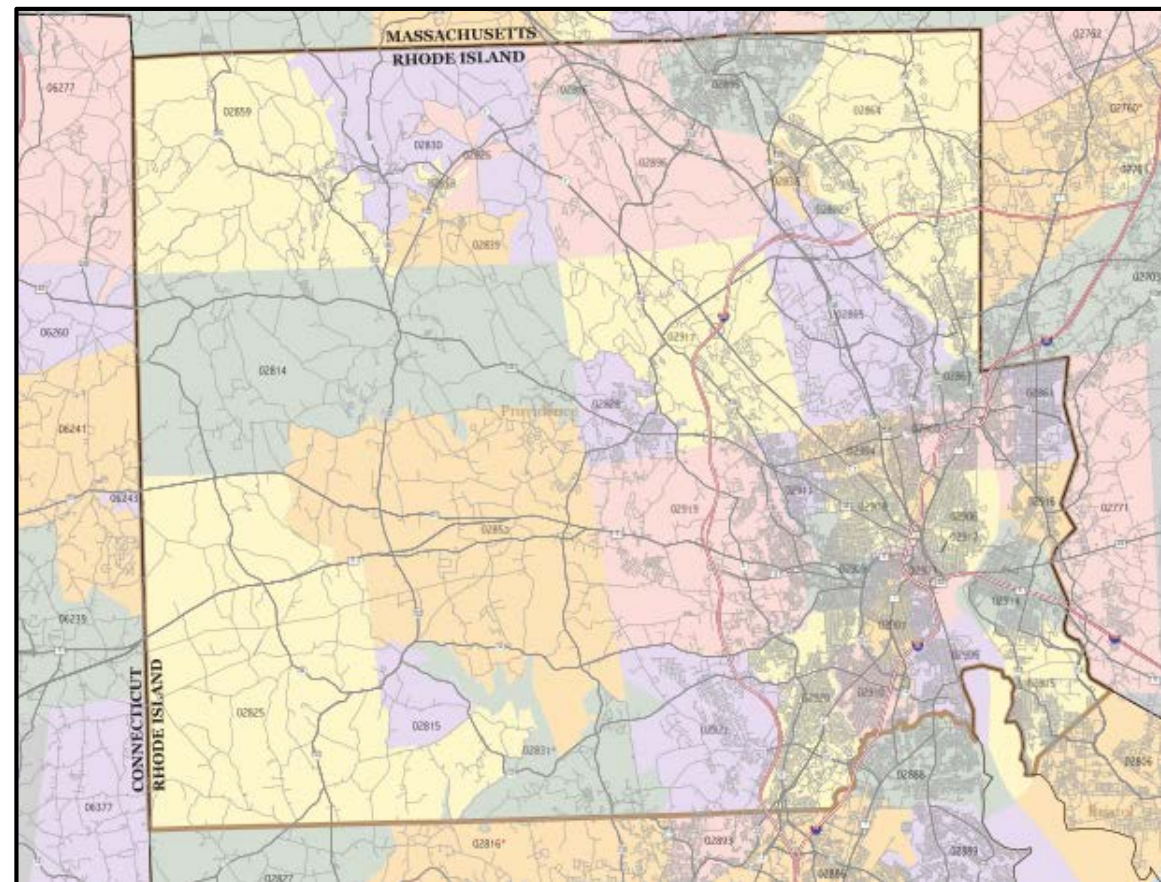
Collecting application materials and fingerprints for temporary field staff.

United States Postal Service and Census Bureau Partnership

Feasibility Study: Use of Postal Carriers as Enumerators

Rationale: USPS maintains a permanent, well-trained, and experienced labor force that has gained public trust and detailed knowledge of the addressing and residential patterns in communities they serve.

Preliminary Goal: To test the feasibility and use of a small number of Postal Carriers as enumerators during NRFU in two ZIP Codes adjacent to – but outside of – the 2018 End-to-End Census Test site in Providence, RI.



Potential ZIP Codes for Pilot

Questions?

2020 Census Systems Readiness

Atri Kalluri

Decennial Information Technology Division

Patricia McGuire

Information Technology Directorate

2020 Census Systems Readiness

Agenda

2017 Census Test Key IT Objectives Achieved

2017 Census Test Lessons Learned

Moving from 2017 to 2018

2018 End-to-End Census Test Readiness

CEDCaP Systems for 2018 End-to-End Census Test

2020 Census Systems Readiness

2017 Census Test – Objectives Achieved

Deployment in the Cloud

Pega 7 platform based solutions

Data flow between Cloud and Census Data Center

Census Questionnaire Assistance

Production Environment for Administrative Records Staging Integration and Storage (PEARSIS)

Response Processing

2020 Census Systems Readiness

2017 Census Test – Lessons Learned

Development and Test

- Thread testing alone may not be enough to assure quality products

Infrastructure

- Cloud has its own limitations
- Automate deployments

Data Integration

- More focus needed on data architecture and data integration

Other

- Be ready to react to the unexpected

2020 Census Systems Readiness

Moving from 2017 to 2018

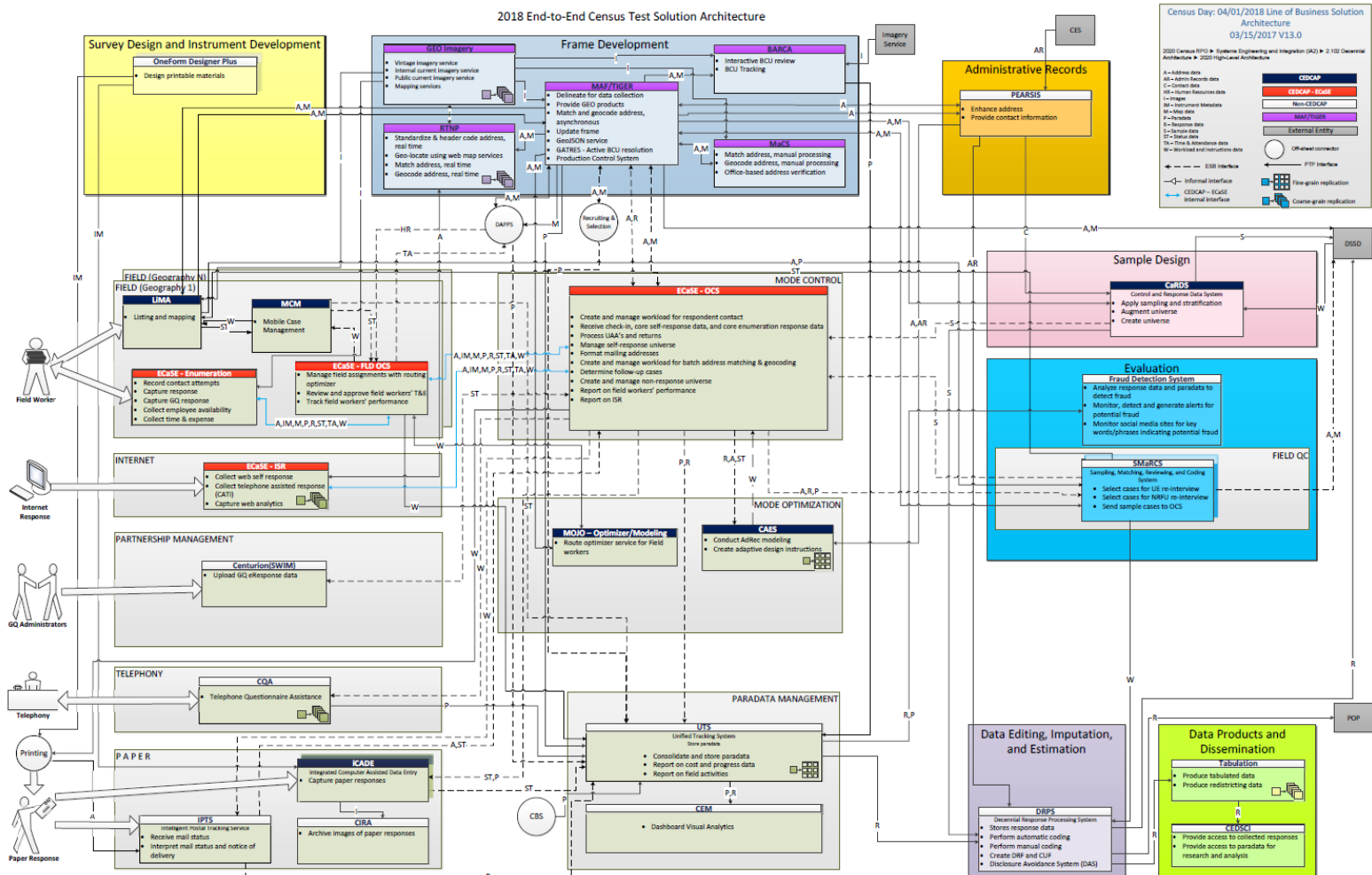
Role of the Technical Integrator:

- Requirements Management
- Business Architecture
- Detailed Solution Design
- Physical Architecture Planning and Design
- Mobile Integration
- Engineering and Integration
- Data Center Capability Implementation
- Verification and Validation
- Release and Deployment Management
- Disaster Recovery Design
- IT Security

Added Advantage of:

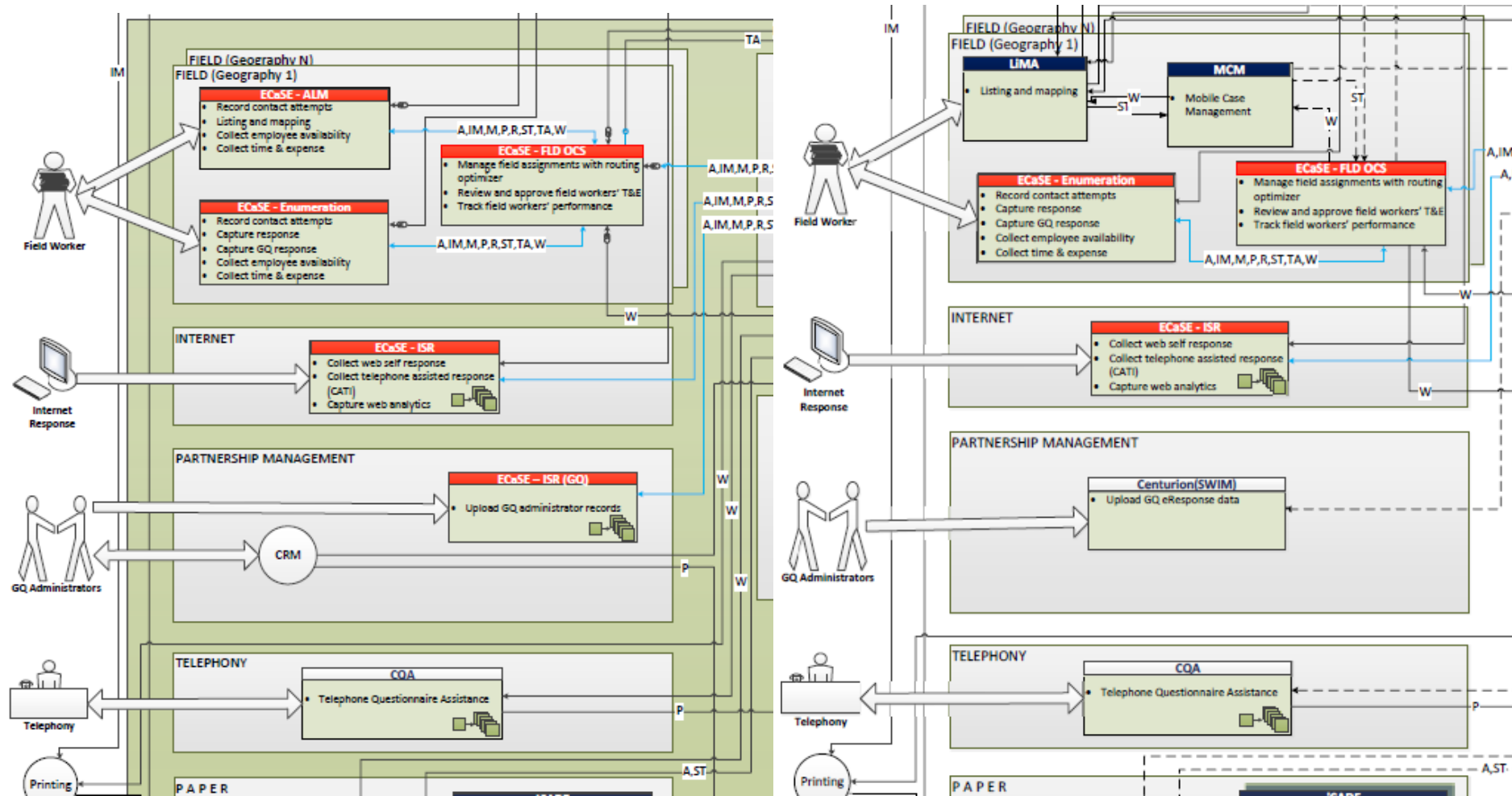
- DevOps (Cloud based)
- Improvements based on independent assessment of systems
- Added resources for integration, scalability and performance testing
- External and Internal Demand Models
- Simulated Data
- Comprehensive infrastructure architecture combined with security
- Decennial focused data center

2018 End-To-End Census Test Solution Architecture



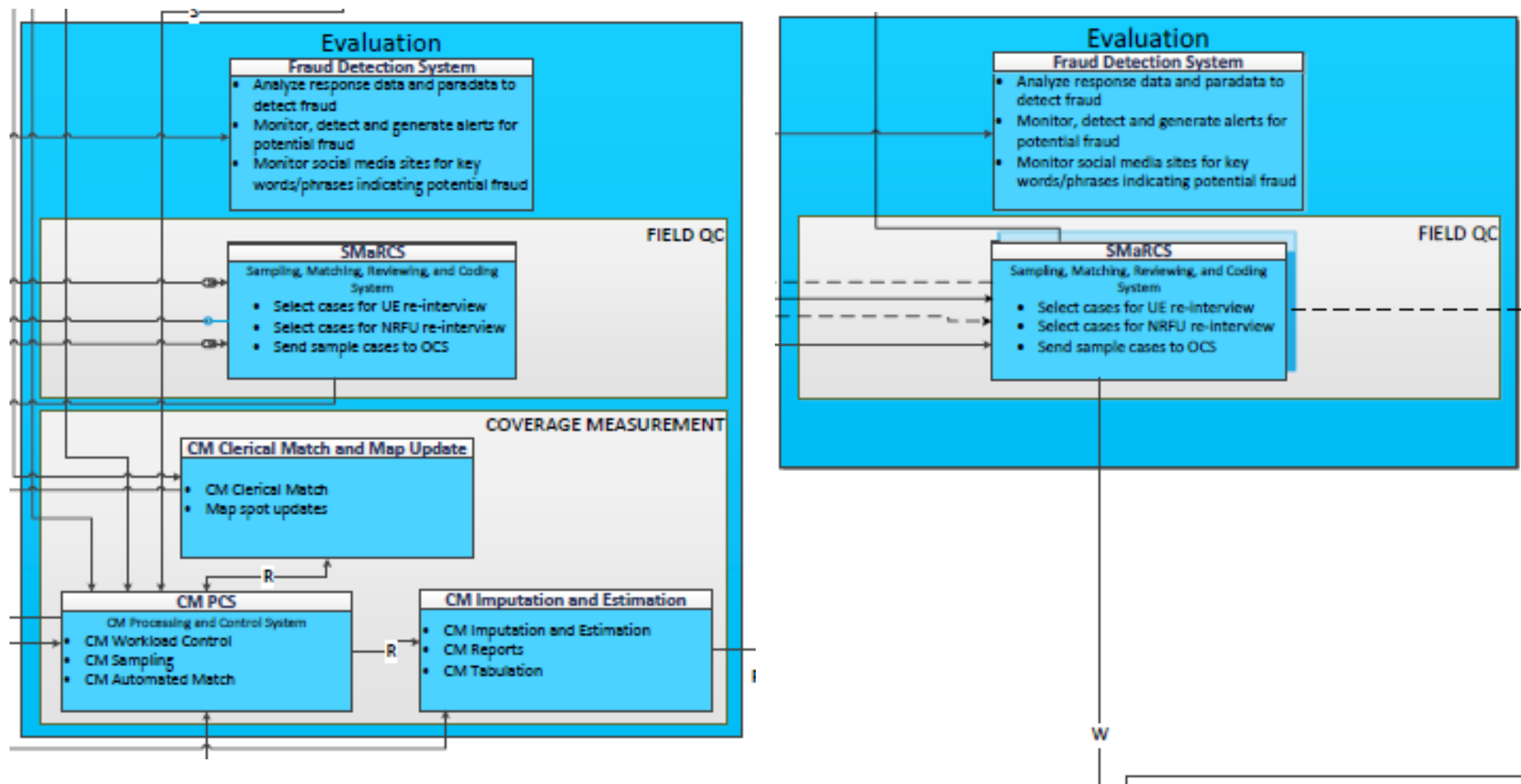
2020 Census Systems Readiness

2018 End-To-End Census Test Solution Architecture Changes

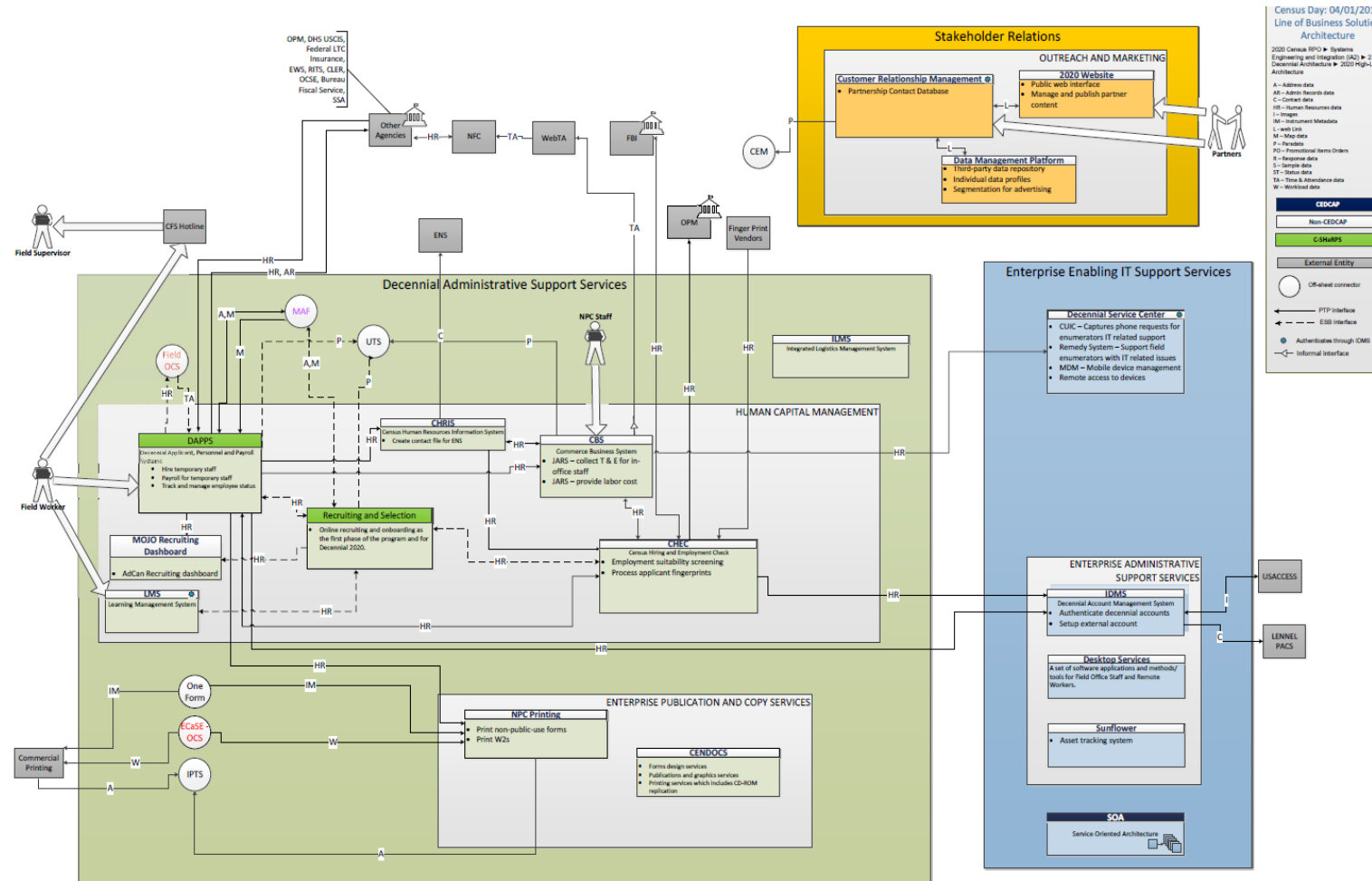


2020 Census Systems Readiness

2018 End-To-End Census Test Solution Architecture Changes (continued)



2018 End-To-End Census Test Solution Architecture (continued)



2020 Census Systems Readiness

2018 End-to-End Census Test Systems

System	Key Efforts/Updates required for 2018/2020
CEDSCI (Center for Enterprise Dissemination Services and Consumer Innovation)	Establish interfaces with 2018 End-to-End Census Test systems. Continue development and test of functionality.
CEM (Customer Experience Management)	Develop enhancements and deploy in support of the 2018 End-to-End Census Test IPC operation. Possible scalability updates are required to support 2020 Census.
CQA (Census Questionnaire Assistance)	Establish interfaces with 2018 End-to-End Census Test systems. Develop and deploy in support of the 2018 End-to-End Census Test Self-Response operation. Scalability updates are required to support 2020 Census.
C-SHaRPS (Census Schedule A Hiring, Recruiting and Payroll System)	Develop and deploy for 2018 End-to-End Census Test. C-SHaRPS contract awarded October 2016.
DAPPS (Decennial Applicant, Personnel and Payroll Systems)	Develop and deploy interface with C-SHaRPS for 2018 End-to-End Census Test. Enumeration Recruiting Release and Benefits implementation is complete. DAPPS is supporting the 2018 End-to-End Census Test Recruiting.
DRPS (Decennial Response Processing System)	Develop enhancements and deploy in support of response processing operation. Scalability updates are required to support 2020 Census.

2020 Census Systems Readiness

2018 End-to-End Census Test Systems (continued)

System	Key Efforts/Updates required for 2018/2020
IPTS (Intelligent Postal Tracking System)	Technical Integrator completed IPTS assessment and provided recommendations for 2018/2020 postal-tracking solution. Implement the solution to support 2018 End to End Census Test.
LMS (Learning Management System)	Leveraged existing C-SHaRPS BPA and acquired SaaS vendor solution in March 2017.
MAF/TIGER (Master Address File/Topologically Integrated Geographic Encoding and Referencing Database)	Develop and deploy collection geographies. Provide address and geospatial services for all operations. Initial geography for the 2018 End-to-End Census Test is deployed.
MOJO (Recruiting Dashboard)	As-Is system. Deployed for 2018 End-to-End Census Test recruiting effort.
PEARSIS (Production Environment for Administrative Records Staging, Integration and Storage)	Continue development, test and deploy in support of 2018 End-to-End Census Test.
RTNP (Real Time Non-ID Processing)	Verify cloud deployment in the production environment in support of the self-response operation. Scalability updates are required to support 2020 Census.

2020 Census Systems Readiness

2018 End-to-End Census Test Systems (continued)

System	Key Efforts/Updates required for 2018/2020
SMaRCS (Sampling, Matching, Reviewing, and Coding System)	Develop enhancements and deploy in support of the 2018 End-to-End Census Test.
Tabulation (Decennial Tabulation System)	Establish interface with 2018 End-to-End Census Test systems, develop and deploy enhancements required to support the 2018 End-to-End Census Test. Completed initial test using 2010 data/volumes.
UTS (Unified Tracking System)	Develop scalability enhancements and deploy in support of 2018 End-to-End Census Test. Approved data lake architecture.
Fraud Detection System	Develop, test, and deploy in support of the 2018 End-to-End Census Test.

2020 Census Systems Readiness

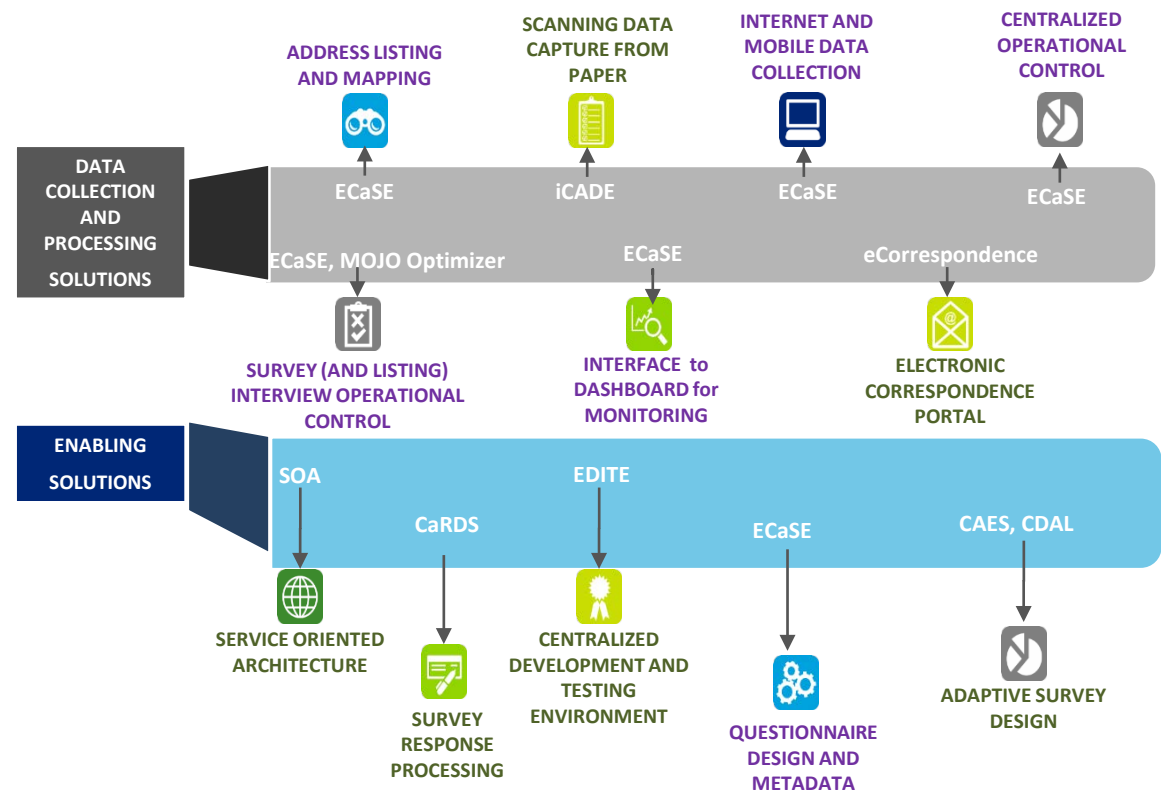
2018 End-To-End Census Test Support Systems

System	Key Efforts/Updates required for 2018/2020
CBS (Commercial Business System)	As-Is system, no functionality updates are required for its 2018/2020 baseline scope. Some updates may be required when interfacing systems (such as DAPPS) migrate to the cloud.
CENDocs (Census Document System)	As-Is system, no functionality updates are required for its 2018/2020 baseline scope.
CHEC (Census Hiring and Employment Check System)	Third party vendor interface needs to be implemented once the fingerprinting contract is awarded. Scalability updates are required to support 2020 Census.
CHRIS (Census Human Resources Information System)	As-Is system, no functionality updates are required for 2018/2020 baseline scope. Some updates may be required when interfacing systems (such as DAPPS) migrate to the cloud.
CIRA (Census Image Retrieval Application)	As-Is system, no functionality updates are required for its 2018/2020 baseline scope. Scalability updates are required to support 2020 Census.
Commercial Printing	Award to a GSA vendor. Develop interface with 2018 End-to-End Census Test systems.
IDMS (Identity Management System)	As-Is system, no functionality updates are required for its 2018/2020 baseline scope. Scalability updates are required to support 2020 Census. Integrate with TI environment.
ILMS (Integrated Logistics Management System)	Finalize baseline scope. Develop interface with 2018 End-to-End Census Test systems in support of IPC. Possible scalability updates are required to support 2020.
NPC Printing (Printing at the National Processing Center)	As-Is system, no functionality updates are required for its 2018/2020 baseline scope.
Sunflower	As-Is system, no functionality updates are required for its 2018/2020 baseline scope.

2020 Census Systems Readiness

Census Enterprise Data Collection and Processing (CEDCaP) Capabilities and Solutions

CEDCaP is comprised of delivery of enterprise capabilities and the solutions to provide those capabilities.



Capabilities shown in purple will be provided by the Enterprise Censuses and Surveys Enabling (ECaSE) Platform

Census Enterprise Data Collection & Processing (CEDCaP)

CEDCaP Data Collection & Processing Capabilities and Solutions Delivered:	
CEDCaP Capability	CEDCaP Solution
1) Centralized Development and Testing Environment to CEDCaP projects	Enterprise Development, Integration, & Test Environment (EDITE)
2) Service Oriented Architecture for CEDCaP projects (i.e., common infrastructure and efficient system interfaces to allow IT applications to communicate without the need for costly system re-writes)	Application Programming Interface (API) Infrastructure (API-I)
3) Centralized Operational Analysis and Control and Adaptive Survey Design capability, including statistical modeling and administrative records	ECaSE Operational Control System Census-Data Access Layer (C-DAL) Concurrent Analysis and Estimation System (CAES)
4) Survey (and Listing) Interview Operational Control	ECaSE Operational Control System MOJO Optimizer
5) Address Listing and Mapping	ECaSE Address Listing Mapping
6) Interface to the Dashboard for Monitoring Survey Cost, Progress, and Quality and Enterprise Paradata Repository	ECaSE
7) Questionnaire Design and Metadata	ECaSE- Questionnaire Design Metadata
8) Internet and Mobile Data Collection	ECaSE Internet Self Response ECaSE – Enumeration
9) Electronic Correspondence Portal	eCorrespondence
10) Scanning Data Capture from Paper	Integrated Computer Assisted Data Entry (ICADE)
11) Survey Response Processing	CARDS (Pre-data collection, TBD (Post-data collection processing))

2020 Census Systems Readiness

CEDCaP Systems

CEDCaP System	Key Efforts/Updates required for 2018/2020
CaRDS (Control and Response Data System)	Develop enhancements to functionality that supported the 2015 and 2016 Census Tests. In production for the 2017 Census Test. Developing enhancements to support the 2018 End-to-End Census Test. Scalability updates are required to support 2020.
iCADE (Integrated Computer Assisted Data Entry System)	Develop enhancements to legacy system that supported the 2015 and 2016 Census tests. In production for paper data capture for the 2017 Census test. Developing enhancements needed for the 2018 End-to-End Census Test. Scalability updates are required to support 2020.
SOA (Service Oriented Architecture)	Used to support the 2016 Census test. In production for the 2017 Census Test to support interfaces between ECaSE in the Cloud and those systems not in the Cloud. Will be used in the Technical Integrator environments for the 2018 End to End Census Test.
ECaSE (Enterprise Censuses and Surveys Enabling)	Internet Self-Response and Survey Operational Control functionality in productions for the 2017 Census Test. Developing enhancements for the 2018 End-to-End Census Test. Scalability updates are required to support 2020. Planning underway to address recommendation from May 2016 COTS Capability Assessment and Analysis decision – conduct performance testing comparison between PRIMUS (CEDCaP solution from the 2016 Census Test and ECaSE-ISR). Testing will be done by Technical Integrator using 2020 workload models and solutions developed to 2018 End to End Test requirements.

2020 Census Systems Readiness

CEDCaP Systems

CEDCaP System	Key Efforts/Updates required for 2018/2020
CAES (Concurrent Analysis and Estimation) (2018 End to End Test)	First time use in the 2018 End to End Census Test. Finalize 2020 Census models that will run on CAES and obtain an ATO in order to support the 2018 End-to-End Census Test.
MOJO (Route Optimizer)	Supported Census tests in 2015 and 2016 Census. Developing enhancements needed for the 2018 End-to-End Census Test to apply business rules needed to re-engineer field operations. Scalability updates are required to support 2020.

Questions?

Wrap-up

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